

20030113027

DRXTH IS FR 83203

DISPOSAL OF CHEMICAL AGENT IDENTIFICATION SETS

AT ROCKY MOUNTAIN ARSENAL, COLORADO

FINAL REPORT

VOLUME II

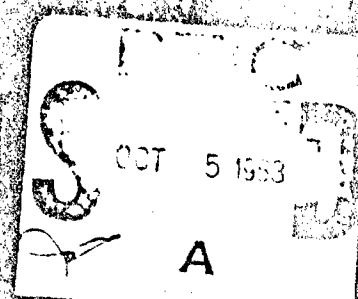
APPENDICES A-D

AUGUST 1983



A133225-

DTIC FILE



DISSEMINATION UNLIMITED COPIES FOR PUBLIC RELEASE

DEPARTMENT OF THE ARMY
HEADQUARTERS AND HAZARDOUS MATERIALS
CENTER, FORT MONMOUTH, NEW JERSEY

83 09 26 107

REPRODUCTION QUALITY NOTICE

This document is the best quality available. The copy furnished to DTIC contained pages that may have the following quality problems:

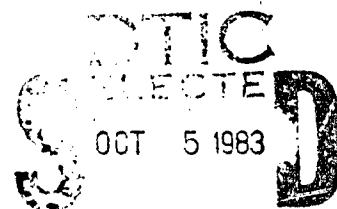
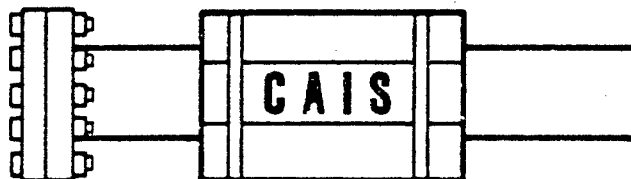
- Pages smaller or larger than normal.
- Pages with background color or light colored printing.
- Pages with small type or poor printing; and or
- Pages with continuous tone material or color photographs.

Due to various output media available these conditions may or may not cause poor legibility in the microfiche or hardcopy output you receive.

☐ If this block is checked, the copy furnished to DTIC contained pages with color printing, that when reproduced in Black and White, may change detail of the original copy.

(6)

**DISPOSAL OF CHEMICAL AGENT
IDENTIFICATION SETS
AT ROCKY MOUNTAIN ARSENAL, COLORADO
FINAL REPORT
VOLUME II
APPENDICES A-D
AUGUST 1983**



Prepared By

A

William R. Brankowitz
USATHAMA

Dr. Michael E. Witt
RMA

John A. Ursillo
RMA

Dr. Jack C. Pantleo
Data Processing Associates

DISTRIBUTION UNLIMITED. CLEARED FOR PUBLIC RELEASE

**DEPARTMENT OF THE ARMY
US ARMY TOXIC AND HAZARDOUS MATERIALS AGENCY
ABERDEEN PROVING GROUND, MARYLAND 21010**

APPENDICES
VOLUME 2

TABLE OF CONTENTS

- APPENDIX A Operation of the Data Entry/Data Print Programs
- APPENDIX B Listing of the Data Entry/Data Print Programs
- APPENDIX C Operation of the Statistical Programs, and
- APPENDIX D Listing of the Statistical Programs

Accession For	
NTIS GRA&I	<input checked="checked" type="checkbox"/>
DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By	
Distribution/	
Availability Codes	
Disc	Avail and/or Special
A	23



APPENDIX A

APPENDIX A OPERATION OF THE DATA ENTRY AND DATA PRINT PROGRAMS

A.1 OPERATION OF THE DATA ENTRY PROGRAMS

The ID Sets Data Entry Programs are a series of interactive computer programs that were designed to enter air monitoring, inventory and plant downtime data onto computer cartridge tape. The twelve computer programs are each stored in separate files on a single cartridge or program tape. The Data Entry Programs were written to utilize the Tektronix 4051/4052 micro-computers in conjunction with the Tektronix 4924 external tape drives.

The computer operator begins the data entry process by inserting the cartridge tape containing the Data Entry Programs into the internal tape drive of the computer. The operator then presses the "AUTO LOAD" key on the upper right-hand side of the keyboard. The "AUTO LOAD" feature automatically executes three functions:

- 1) FIND 1 - this statement tells the computer to find the beginning of the first program file on the cassette tape.
- 2) OLD - This statement directs the computer to load the contents of the first program file into the computer's memory.
- 3) RUN - This statement executes the program that was loaded into memory.

After pressing the "AUTO LOAD" key, the message in Figure A-1 appears.

From this time on, the interactive process between the computer and the operator continues. The computer communicates with the operator by printing messages on the screen of the CRT. The first question asked by the computer concerns instructions for using the program. See Figure A-2.

If no directions are required, the operator responds by entering an "N" and pressing the "RETURN" key. The computer then asks the operator if the data tape has been labeled. See Figure A-3.

An "N" in response to this question will result in the computer executing the tape labeling routine. The operator is then instructed to place a cartridge tape into the 4924 external tape drive. See Figure A-4.

Next the operator is asked a series of questions that will determine the internal label which will become the first record on the tape file. This record contains the day of the week and a numeric code which represents the data type. Once the data tape has been labeled, the operator is ready to enter data. See Figures A-5 and A-6.

The operator is now instructed to enter a data sheet number from a list of available programs. See Figure A-7.

The computer will then ask a series of questions that correspond to the data coded on the various data sheets. Selection of a data sheet number which corresponds to Analyst and Lab Coordinator Work Sheets will result in the computer asking a series

of questions similar to those given in Figure A-8. The questions asked for the MIRAN selection can be found in Figure A-9. Figure A-10 shows the questions asked for Bldg. 1611 Receipt Inspection. Five separate data entry programs exist for the Process Data. See Figures A-11 through A-16. Questions for plant downtime data can be found in Figure A-17.

Once the operator has finished entering data, he or she responds with an "N" to the question of more data. The computer places an "End of File" mark on the data tape and the program is ended. The data tape is then printed out, verified and edited.

A.2 OPERATION OF THE DATA PRINT PROGRAMS

The ID Sets Data Print Programs are a set of interactive computer programs that are used to print out air monitoring, inventory and plant downtime data. The Data Print Programs were written to utilize the Tektronix 4051/4052 micro-computers in conjunction with the Tektronix 4924 external tape drives and the Tektronix 4641 character printer.

The computer operator begins the data print process by inserting the cartridge tape containing the print programs into the internal tape drive of the computer. The operator then presses the "AUTO LOAD" key on the upper right-hand side of the keyboard. The directory shown in Figure A-17 appears and the operator is instructed to enter the data sheet number which corresponds to the type of data he or she wishes to print.

A message similar to that shown in Figure A-18 then appears on the computer screen.

The operator is instructed to insert the data tape into the external 4924 tape drive. See Figure A-19.

The operator then presses the "RETURN" key to begin. Data is then printed out on the 4641 character printer. See Figure A-20.

The procedure is similar, with the exception of downtime data, for all data types. The operator may be asked to enter the unit number for the external tape drive for some programs. The operator may also have the option of producing a hard copy via the Tektronix 4631 hard copy unit. See Figures A-21 through A-24.

The print program for downtime data has two options. Downtime data, the first option, prints a particular day's plant downtime data on the line printer. See Figure 25. The downtime data is stored on the data tape as a numeric code. The downtime print program translates the numeric code into the actual descriptive terms (names).

The second option prints the names corresponding to the downtime keys. In other words, the program prints *all* numeric codes and corresponding descriptive terms. See Figure A-26.

A.3 DATA CORRECTION

Once the computer operator has finished entering data, he or she then prints out the data using the ID Sets Data Print Programs. Verification of the data is performed by comparing the computer print-out to the original data sheets.

Errors detected during the verification process are corrected by the use of the Tektronix 4050 series R06 editor. The editor is an ROM pack that is plugged into the back of the Tektronix computer. The computer operator inserts the data tape that he or she wishes to correct into the computer's internal tape drive. The operator enters the statement "CALL EDITOR" from the keyboard in order to make the editor routines available. Editor commands and instructions on the use of the editor can be found in the Tektronix 4050 Series R06 Editor Operator Manual. This manual is available through:

Tektronix, Inc.
P.O. Box 500
Beaverton, Oregon 97077

A.4 OPERATION OF THE MERGE PROGRAM

The Merge Program was designed to merge the six separate data files of the inventory data tape into a single file that is acceptable to the USATHAMA Univac computer. The program also changes the dates given on the inventory data tape to Julian format.

The computer operator places the Merge Program tape into the internal tape drive of the computer and presses the "AUTO LOAD" key. The directory on Figure A-27 appears on the computer screen. Option 2 is selected. Option 1 (MIRAN 80 data) was discarded before the ID Sets processing activity was started.

The operator is instructed to place the inventory data tape into the internal tape drive. The output data tape is placed in the external 4924 tape drive. The computer reads the tape placed in the internal tape drive, reformats the data and writes the reformatted data on both the line printer and the data tape located in the external tape drive. The data on the original data tape is left unchanged. The data on the new tape is now in a format compatible with the USATHAMA Univac computer. See Figure A-28.

A.5 OPERATION OF THE TOTALS PROGRAMS

The ID Sets Totals Programs are a set of computer programs that update data tapes for ID Sets processed, drums of waste and plant downtime. The Totals Programs also produce daily reports and reports for any given period of time.

The computer operator inserts the Totals Program cartridge tape into the internal tape drive of the Tektronix computer. The "AUTO LOAD" key is pressed and the directory in Figure A-29 appears on the computer screen.

Program 1 updates the processed ID Sets Totals and prints a daily report. The operator is instructed to place the inventory data tape into the internal tape drive. Another tape, the ID Sets Totals tape, is placed into the 4924 external tape drive (see Figure A-30). The ID Sets Totals data tape contains a running total by type of sets destroyed and is updated by the Totals Program.

Program 2 reads the ID Sets Totals tape and produces a report for any given period of time. See Figure A-31 for its instructions.

Drum totals are updated and a daily report is printed by Program 3. The inventory data tape for a particular day is inserted into the computer's internal tape drive. A Drum Totals data tape is inserted into the 4924 external tape drive. The Drum Totals data tape contains a running total by type of drums produced. See Figure A-32 for instructions.

Program 4 reads the Drum Totals data tape and prints a report for any period of time. See Figure A-33 for instructions.

Program 5 updates a downtime data tape but does not produce a daily report. See Figure A-34 for instructions.

Program 6 reads the Downtime Totals data tape and produces up to five different downtime reports for any given period of time. See Figure A-35 for instructions and Figure A-36 for the directory of downtime reports.

All Totals Programs print reports on the Tektronix 4641 character printer. The ID sets processed and drum totals routines contain an option for hard copies on the Tektronix 4631 hard copy unit.

GLOSSARY OF TEKTRONIX HARDWARE TERMS
List of Tektronix Hardware Used in ID Sets by Model Number

- 4051** A micro-computer containing 32K RAM high resolution graphics display, internal cartridge tape drive and BASIC interpreter in ROM.
- 4052** Enhanced version of 4051 containing a faster CPU and 64K RAM. Otherwise the two machines are compatible. Both use the same version of BASIC.
- 4631** Device used to make a hard copy image of the display on the 4050 series micro-computer. The copy is produced on heat sensitive paper that is suitable for reproduction.
- 4641** Character printer that can be connected to a 4050 series micro-computer through a serial interface module. The printer is used to produce printouts of all data.
- 4662** Digital plotter which can be used with the 4050 series micro-computers by way of the GPIB (General Purpose Interface Bus). The plotter is used to produce larger scale plots than can be shown on the screen. The plotter serves as an alternative display device that may be used as backup when the 4631 is inoperable.
- 4924** External cartridge tape drive that may be connected to the 4050 series Tektronix micro-computers. The GPIB is used to allow communication between the computer and the external drive. The external drive is completely compatible with the internal drive.

DO YOU NEED DIRECTIONS FOR USING THESE PROGRAMS? (Y OR N)

FIGURE A-1

INSTRUCTIONS FOR DATA ENTRY PROGRAMS:

1. FOR THE FIRST RECORD, A NUMBER OF X'S WILL APPEAR TO SHOW THE LENGTH OF EACH DATA FIELD. FOR EXAMPLE, XXXXXX REQUIRES THAT 6 OR FEWER CHARACTERS BE ENTERED.
2. AFTER THE FIRST RECORD HAS BEEN ENTERED, INSTEAD OF X'S, THE PREVIOUSLY ENTERED VALUE APPEARS. IF YOU WISH TO REPEAT THIS VALUE SIMPLY PRESS THE ENTER KEY. IT IS NOT NECESSARY TO REENTER THE VALUE.
3. IN SOME CASES (EXAMPLE: DATE, TIME, CONTROL NUMBER) THE FIELD MUST BE COMPLETELY FILLED.
4. NUMERICAL DATA MUST CONTAIN A DECIMAL POINT.
5. SOME NUMERICAL DATA MAY BE PRECEDED BY A < OR > SYMBOL. NO + OR - SIGNS ARE ALLOWED.
6. IF AN ITEM IS MISSING ENTER: M
7. IF AN ITEM IS NOT APPLICABLE ENTER: NA
8. IF YOU MAKE AN ERROR AND WISH TO BEGIN THE RECORD AGAIN PRESS USER DEFINABLE KEY #1 (UPPER LEFT). REENTER DATA FROM THE BEGINNING OF THE RECORD.
9. IF YOU WISH TO EXIT FROM A PROGRAM, PRESS USER DEFINABLE KEY #2 (UPPER LEFT).

THE PROGRAM CHECKS THE INPUT FORMATS AND WILL PROMPT YOU IF YOU MAKE A MISTAKE.

PRESS 'HOME PAGE' KEY TO CONTINUE

FIGURE A-2

DO YOU NEED DIRECTIONS FOR USING THESE PROGRAMS? (Y OR N) N
HAS YOUR DATA TAPE BEEN LABELLED? (ENTER Y OR N) N

FIGURE A-3

DO YOU WANT TO LABEL A DATA TAPE? (ENTER Y OR N) Y
PLACE TAPE CASSETTE IN UNIT 4924
ENTER THE UNIT NUMBER YOU ARE USING FOR THE DATA TAPE 11
IS THIS A BRAND NEW TAPE? (ENTER Y OR N) N
ENTER THE COMPLETE NAME OF THE DAY OF THE WEEK MONDAY

FIGURE A-4

DATA SHEET #	CONTENTS
1	ANALYST AND LAB COORD WORK SHEETS (H, CK, CH, PS)
2	ANALYST AND LAB COORD WORK SHEETS (AS)
3	ANALYST AND LAB COORD WORK SHEETS (CS)
4	ANALYST AND LAB COORD WORK SHEETS (L)
9	ANALYTICAL DATA SHEET (MIRAN 88)
10-15	INVENTORY DATA
16	PLANT DOWNTIME DATA

ENTER DATA SHEET NUMBER FROM THE ABOVE LIST 1
THIS LABEL IS FOR DATA SHEET #1 FOR MONDAY
IS THIS OK? (ENTER Y OR N) Y
DO YOU WANT TO LABEL ANOTHER TAPE? (ENTER Y OR N) N
NORMAL END OF PROGRAM
DO YOU WANT TO ENTER DATA? (ENTER Y OR N)

FIGURE A-5

DO YOU NEED DIRECTIONS FOR USING THESE PROGRAMS? (Y OR N) N
HAS YOUR DATA TAPE BEEN LABELLED? (ENTER Y OR N)

FIGURE A-6

DIRECTORY FOR ID SETS DATA ENTRY PROGRAMS
VERSION 1 - 05/83/81

DATA SHEET #	CONTENTS
1	ANALYST AND LAB COORD WORK SHEETS (H, CK, CN, PS, T)
2	ANALYST AND LAB COORD WORK SHEETS (AS)
3	ANALYST AND LAB COORD WORK SHEETS (GB)
4	ANALYST AND LAB COORD WORK SHEETS (L)
9	ANALYTICAL DATA SHEET (MIRAN 88)
10	BLDG 1611 RECEIPT INSPECTION
11	PROCESS DATA - DISASSEMBLY ROOM
12	PROCESS DATA - RESIDUE AREA (PIGS)
13	PROCESS DATA - RESIDUE AREA (DRUMS)
14	PROCESS DATA - SPRAY DRYER
15	PROCESS DATA - ELECTROSTATIC PRECIPITATOR
16	PLANT DOWNTIME DATA

ENTER DATA SHEET NUMBER FROM THE ABOVE LIST 1

FIGURE A-7

IS THIS ANALYST WORK SHEET DATA FOR K, CK, CH OR PG?
ENTER Y OR N Y
INSERT THE DATA TAPE INTO UNIT 4924
ENTER THE UNIT NUMBER YOU ARE USING FOR THE DATA TAPE 11
ENTER THE FIRST 3 LETTERS OF THE DAY OF THE WEEK MON
IS THIS DATA FOR A NEW WEEK? (ENTER Y OR N)

BEGIN DATA ENTRY FROM ANALYST WORK SHEET 01
ENTER PAGE NUMBER XX
ENTER DATE OF THE SAMPLE COLLECTION (DDMMYY) XXXXXX
ENTER AGENT XX
ENTER SERIAL NUMBER X
ENTER CONTROL NUMBER XXXXXX
ENTER CALIBRATION STD, CONC. XX.XXX
ENTER PEAK HEIGHT XXX.XX
ENTER AGENT CONCENTRATION XXX.XX
ENTER DILUTION XXXX.X
ENTER BUBBLER VOLUME XXXX.X
ENTER CONCENTRATION(/SAMPLE) XXX.XX
ENTER ANALYSIS TIME XXXX
ENTER INITIALS XXX

BEGIN DATA ENTRY FROM LAB COORDINATOR WORK SHEET 02
ENTER THE CONTROL NUMBER (AAXXXX)
XXXXXX

IS THIS REANALYSIS DATA? (ENTER Y OR N)
ENTER PAGE NUMBER XX
ENTER SET TYPE XXXX
ENTER LOCATION XX
ENTER PURPOSE XX
ENTER START TIME XXXX
ENTER STOP TIME XXXX
ENTER AIRFLOW XXXX.X
ENTER CONTROL CONCENTRATION X.XXX
ENTER AIR SAMPLE CONCENTRATION XXX.XXXX

IS THERE AN ANALYST'S COMMENT? (ENTER Y OR N) N
IS THERE A LAB. DATA COORD. COMMENT? (ENTER Y OR N) N
MORE DATA? (ENTER Y OR N) N WILL END PROGRAM Y

FIGURE A-8

DATA ENTRY PROGRAM FOR MIRAN 80
INSERT THE OUTPUT DATA TAPE INTO UNIT 4924
ENTER THE UNIT NUMBER YOU ARE USING FOR THE OUTPUT TAPE 11
ENTER THE FIRST 3 LETTERS OF THE DAY OF THE WEEK MON
IS THIS DATA FOR A NEW WEEK? (ENTER Y OR N) Y
ENTER PAGE NUMBER XX
ENTER DATE OF THE SAMPLE COLLECTION (DDMMYY) XXXXXX
ENTER SERIAL NUMBER OF MIRAN X
ENTER SET TYPE XXXX
ENTER LOCATION XX
ENTER PURPOSE XX
ENTER START TIME XXXX
ENTER STOP TIME XXXX
ENTER CHLOROPICRIN - 1 HOUR AVERAGE XXXX.XX
ENTER CHLOROPICRIN - PEAK XXXX.XX
ENTER INITIALS XXX
ENTER PHOSGENE - 1 HOUR AVERAGE XXXX.XX
ENTER PHOSGENE - PEAK XXXX.XX

ENTER INITIALS XXX
ENTER CHLOROFORM - 1 HOUR AVERAGE XXXX.XX
ENTER CHLOROFORM - PEAK XXXX.XX
ENTER INITIALS XXX

IS THERE A COMMENT? (ENTER Y OR N)
MORE DATA? (ENTER Y OR N; N WILL END PROGRAM)

FIGURE A-9

IS THIS BLDG 1611 RECEIPT INSPECTION DATA? (ENTER Y OR N) Y
INSERT THE DATA TAPE INTO UNIT 4924
ENTER THE UNIT NUMBER YOU ARE USING FOR THE DATA TAPE 11
ENTER THE FIRST 3 LETTERS OF THE DAY OF THE WEEK MON
IS THIS DATA FOR A NEW WEEK? (ENTER Y OR N) Y
ENTER PAGE NUMBER XX
ENTER DATE OF THE SAMPLE COLLECTION (DDMMYY) XXXXXX
ENTER SET TYPE XXXX
ENTER SET NUMBER XXXX
ENTER ACTION - IF DESTROYED ENTER AN X
X
ENTER COMMENT (43 CHARACTERS OR LESS)

IS THERE ANOTHER COMMENT? (ENTER Y OR N) N
MORE DATA? (ENTER Y OR N) N WILL END PROGRAM) N
PROGRAM FINISHED

FIGURE A-10

IS THIS PROCESS DATA (DISASSEMBLY ROOM)? (ENTER Y OR N) Y
INSERT THE DATA TAPE INTO UNIT 4924
ENTER THE UNIT NUMBER YOU ARE USING FOR THE DATA TAPE 11
ENTER THE FIRST 3 LETTERS OF THE DAY OF THE WEEK MON
IS THIS DATA FOR A NEW WEEK? (ENTER Y OR N) Y
ENTER PAGE NUMBER XX
ENTER DATE OF THE SAMPLE COLLECTION (DDMMYY) XXXXXX
ENTER SET TYPE XXXX
ENTER STATION NUMBER XX
ENTER COMMENT (47 CHARACTERS OR LESS)

IS THERE ANOTHER COMMENT? (ENTER Y OR N) N
MORE DATA? (ENTER Y OR N) N WILL END PROGRAM) N
PROGRAM FINISHED

FIGURE A-11

IS THIS PROCESS DATA (RESIDUE AREA - PICS)?
ENTER Y OR N Y

INSERT THE DATA TAPE INTO UNIT 4924

ENTER THE UNIT NUMBER YOU ARE USING FOR THE DATA TAPE 11

ENTER THE FIRST 3 LETTERS OF THE DAY OF THE WEEK MON

IS THIS DATA FOR A NEW WEEK? (ENTER Y OR N) Y

ARE YOU ENTERING DATA FROM A NEW PAGE? (ENTER Y OR N) Y

ENTER PAGE NUMBER XX

ENTER DATE OF THE SAMPLE COLLECTION (DDMMYY) XXXXXX

ENTER SET TYPE XXXX

ENTER SET NUMBER XXXX

ENTER SKID NUMBER XXXX

FIGURE A-12

IS THIS PROCESS DATA (RESIDUE AREA - DRUMS)?
ENTER Y OR N Y

INSERT THE DATA TAPE INTO UNIT 4924

ENTER THE UNIT NUMBER YOU ARE USING FOR THE DATA TAPE 11

ENTER THE FIRST 3 LETTERS OF THE DAY OF THE WEEK MON

IS THIS DATA FOR A NEW WEEK? (ENTER Y OR N) Y

ARE YOU ENTERING DATA FROM A NEW PAGE? (ENTER Y OR N) Y

ENTER PAGE NUMBER XX

ENTER DATE OF THE SAMPLE COLLECTION (DDMMYY) XXXXXX

ENTER DRUM NUMBER XXXXX

ENTER DRUM WEIGHT XXX

ANY MORE DATA FROM THIS SHEET? (ENTER Y OR N) N

ENTER TOTAL DRUMS

FIGURE A-13

IS THIS PROCESS DATA (SPRAY DRYER)?
ENTER Y OR N Y

INSERT THE DATA TAPE INTO UNIT 4924

ENTER THE UNIT NUMBER YOU ARE USING FOR THE DATA TAPE 11

ENTER THE FIRST 3 LETTERS OF THE DAY OF THE WEEK MON

IS THIS DATA FOR A NEW WEEK? (ENTER Y OR N) Y

ARE YOU ENTERING DATA FROM A NEW PAGE? (ENTER Y OR N) Y

ENTER PAGE NUMBER XX

ENTER DATE OF THE SAMPLE COLLECTION (DDMMYY) XXXXXX

ENTER DRUM NUMBER XXXXX

ENTER DRUM WEIGHT XXX

ANY MORE DATA FROM THIS SHEET? (ENTER Y OR N) N

ENTER TOTAL DRUMS

FIGURE A-14

IS THIS PROCESS DATA (ELECTROSTATIC PRECIPITATOR)?
ENTER Y OR N Y

INSERT THE DATA TAPE INTO UNIT 4924

ENTER THE UNIT NUMBER YOU ARE USING FOR THE DATA TAPE 11

ENTER THE FIRST 3 LETTERS OF THE DAY OF THE WEEK
MON

IS THIS DATA FOR A NEW WEEK? (ENTER Y OR N) Y

ARE YOU ENTERING DATA FROM A NEW PAGE? (ENTER Y OR N) Y

ENTER PAGE NUMBER XX

ENTER DATE OF THE SAMPLE COLLECTION (DDMMYY) XXXXXX

ENTER DRUM NUMBER XXXXX

ENTER DRUM WEIGHT XXX

ANY MORE DATA FROM THIS SHEET? (ENTER Y OR N) N

ENTER TOTAL DRUMS

FIGURE A-15

IS THIS ID SETS PLANT DOWNTIME DATA? (ENTER Y OR N) Y
INSERT THE DATA TAPE INTO UNIT 4924
ENTER THE UNIT NUMBER YOU ARE USING FOR THE DATA TAPE 11
ENTER THE FIRST 3 LETTERS OF THE DAY OF THE WEEK MON
IS THIS DATA FOR A NEW WEEK? (ENTER Y OR N) Y
ENTER PAGE NUMBER XX
ENTER DATE OF THE SAMPLE COLLECTION (DDMMYY) XXXXXX
ENTER START TIME XXXX
ENTER STOP TIME XXXX
ENTER SIMULTANEOUS (Y OR N) X
ENTER SUBSYSTEM NUMBER XX
ENTER PRIMARY COMPONENT NUMBER XX
ENTER SECONDARY COMPONENT NUMBER XX
ENTER DESCRIPTIVE ACTION XX
ENTER FAILURE MODE XX
ENTER CORRECTIVE ACTION XX
ENTER EFFECT ON PRODUCTION XX

ENTER COMMENT (37 CHARACTERS OR LESS)

MORE DATA? (ENTER Y OR N; N WILL END PROGRAM) N
PROGRAM FINISHED

FIGURE A-16

DIRECTORY FOR ID SEYS DATA PRINT PROGRAMS
VERSION 9 - 8/28/81

DATA SHEET #	CONTENTS
1	ANALYST AND LAB COORD WORK SHEET (H,CK,CH,PS,T)
2	ANALYST AND LAB COORD WORK SHEET (AS)
3	ANALYST AND LAB COORD WORK SHEET (GB)
4	ANALYST AND LAB COORD WORK SHEET (L)
9	ANALYTICAL DATA SHEET (MIRAH 88)
10	BLDG 1611 - RECEIPT INSPECTION
11	PROCESS DATA - DISASSEMBLY ROOM
12	PROCESS DATA - RESIDUE AREA (PIGS)
13	PROCESS DATA - RESIDUE AREA (DRUMS)
14	PROCESS DATA - SPRAY DRYER
15	PROCESS DATA - ELECTROSTATIC PRECIPITATOR
16	PLANT DOWNTIME DATA

ENTER DATA SHEET NUMBER

FIGURE A-17

INSERT THE DATA TAPE INTO UNIT 4924
PRESS ENTER KEY TO BEGIN

FIGURE A-18

INSERT DATA TAPE INTO EXTERNAL TAPE DRIVE

FIGURE A-19

PROGRAM TO PRINT
PROCESS DATA SHEET - DISASSEMBLY ROOM
INSERT DATA TAPE IN UNIT 4924

DO YOU WANT TO USE THE HARD COPIER?
ENTER (Y OR N) N

ENTER UNIT NUMBER YOU ARE USING FOR THE DATA TAPE 11

FIGURE A-20

PROGRAM TO PRINT
PROCESS DATA SHEET - DECONHED PIG CONTROL
INSERT DATA TAPE IN UNIT 4924

DO YOU WANT TO USE THE HARD COPIER?
ENTER (Y OR N) N

ENTER UNIT NUMBER YOU ARE USING FOR THE DATA TAPE

FIGURE A-21

PROGRAM TO PRINT
PROCESS DATA SHEET - FURNACE RESIDUE CONTROL
INSERT DATA TAPE IN UNIT 4924

DO YOU WANT TO USE THE HARD COPIER?
ENTER (Y OR N) N

ENTER UNIT NUMBER YOU ARE USING FOR THE DATA TAPE 11

FIGURE A-22

PROGRAM TO PRINT
PROCESS DATA SHEET - SPRAY DRYER
INSERT DATA TAPE IN UNIT 4924

DO YOU WANT TO USE THE HARD COPIER?
ENTER (Y OR N) N

ENTER UNIT NUMBER YOU ARE USING FOR THE DATA TAPE 11

FIGURE A-23

PROGRAM TO PRINT
PROCESS DATA SHEET - ELECTROSTATIC PRECIPITATOR
INSERT DATA TAPE IN UNIT 4924

DO YOU WANT TO USE THE HARD COPIER?
ENTER (Y OR N) N

ENTER UNIT NUMBER YOU ARE USING FOR THE DATA TAPE 11

FIGURE A-24

DO YOU WANT TO LIST
 1 - DOWNTIME DATA
 2 - NAMES CORRESPONDING TO DOWNTIME KEYS

ENTER 1 OR 2: 1

INSERT DATA TAPE IN UNIT 4924
 ENTER UNIT NUMBER YOU ARE USING FOR THE DATA TAPE 11

SUBSYSTEMS

1	POWER DISTRIBUTION	30	SPRAY TREE
2	SERVICE AIR	31	CONVEYOR
3	POTABLE WATER	32	GEAR
4	STEAM AND CONDENSATE	33	WINDOW
5	FUEL OIL	34	HOT SHOE
6	PROCESS WASTE	35	INSIDE CART
7	DOORS	36	OUTSIDE CART
8	FIRE PROTECTION	37	DOOR
9	HVAC	38	GAUGE
10	ELECTROSTATIC PRECIP	39	TANK
11	SCRUBBERS	40	HOPPER
12	CONTROL ROOM	41	TRAY
13	DEACT FURNACE	42	RACK
14	DECON FURNACE	43	MOIST
15	AFTER BURNER	44	CABLE
16	EMERGENCY POWER	45	BLOCK/HOOK
17	QUENCH	46	LIFTING DEVICE
18	SPRAY DRYER	47	PALLET
19	RECEIVING & HANDLING	48	BURNER
20	GLOVE BOX	49	PILOT
21	DECON MODULE	50	FIREYE
22	BOX FEED	51	SUMP
23	RESIDUE HANDLING	52	PIPE
24	SET MOVEMENT(TSY)	53	BOILER
25	ENVIRO MONITORING	54	COIL
		55	TRAP
99	ADMINISTRATIVE	56	HEATER
		57	FILTER
		58	STRAINER
		59	THERMOSTAT/THERMOCO
		60	LINKAGE
		61	BLOWER
		62	FAN
		63	OVERPACK
		64	GLOVES
		65	SPHINCTER
		66	WRENCH
		67	COMPRESSOR
		68	DRYER
		69	HEAT EXCHANGE/COOLER
		70	CONTROL PANEL
		71	TV MONITOR
		72	CART TOP
		73	CIRCUIT BREAKER
		74	
		75	LIGHT
		76	MIRAN 80
		77	BUBBLER/FILTER
		78	TABLE
		79	PIG SET
		80	BOX SET
		81	CONNECTOR/ATTACHMENT
		82	LINK/TAB
		83	PIN
		84	ALARM
		85	STAGE
		86	STATION
		87	VIBRATOR
		88	RAPPER
		89	GRID
		90	SAMPLE
		91	WHEEL
		92	BAND
		93	STACK
		94	SKI
		95	BATTERY
		96	REGULATOR
		97	BRIDGE
		98	IRIS
		99	OTHER

COMPONENTS

1	ACTUATOR,FEELER
2	MOTOR
3	PUMP
4	VALVE
5	BELT
6	SEAL
7	SHAFT
8	CHAIN
9	SPROCKET
10	BEARING
11	CYLINDER
12	VALVE,SOLENOID
13	RELAY
14	CONTACT
15	FUSE
16	CIRCUIT BREAKER
17	WIRING
18	SWITCH
19	CAMERA
20	CONTROLLER
21	PAN AND TILT
22	DAMPER
23	POSITIONER
24	AIR HANDLING UNIT 1
25	AIR HANDLING UNIT 2
26	AIR HANDLING UNIT 3
27	TIMER
28	HOSE
29	TRANSMITTER

FIGURE A-25

DESCRIPTIVE ACTION

1	NORTH
2	SOUTH
3	EAST
4	WEST
5	N01
6	N02
7	N03
8	N04
9	N05
10	UPPER
11	LOWER
12	HYDRAULIC
13	PNEUMATIC
14	TEMPERATURE
15	PRESSURE
16	LEVEL
17	FLOW
18	POSITION
19	FLAME
20	BRINE
21	STEAM
22	CONDENSATE
23	NATURAL GAS
24	FUEL OIL
25	LUBRICANT
26	AIR
27	WATER
28	BYPASS
29	CONTROL
30	SHUTOFF
31	SUPPLY
32	ISOLATION
33	SOLENOID
34	RELIEF
35	TRANSFER
36	AGENT
37	PIG SET
38	BOX SET
39	OVERSIZE
99	OTHER

FAILURE MODES

1	MISSING
2	NOT READY
3	WAITING
4	BURNED
5	LEAK
6	MADE
7	NOT MADE
8	BENT
9	BROKEN
10	OUT OF ADJUSTMENT
11	FLAMEOUT
12	OFF
13	ON
14	LOOSE
15	AIF IN LINE
16	JAMMED
17	STUCK
18	FALSE SIGNAL/READ
19	EMPTY
20	OUT OF STOCK
21	HUMAN ERROR
22	CAUSE UNKNOWN
23	PEGGED
24	INSPECTION
25	OFF TRACK
26	REBURN
27	DROPPED PIG
28	CHANGE TEST
29	INCOMPLETE
30	HIGH
31	LOW
32	WARPED
33	PLUGGED
34	FULL
35	FROZEN
36	DIRTY
99	OTHER

EFFECT ON OPERATION

1	DISCONTINUED
2	INTERRUPT/RESUMED
3	SLOWED
4	DELAYED START
5	NOT AFFECTED
6	CAUSED OVERTIME

CORRECTIVE ACTION

1	INVESTIGATE
2	ADJUST
3	LUBRICATE
4	REPAIR IN PLACE
5	RESET
6	REMOVE/REPAIR/REPL
7	INSTALL
8	REMOVE/REPLACE
9	RESTART
10	START BACKUP/STDBY
11	PROBLEM DISAPPEARED
12	ACTION DEFERRED
13	CLEANED
14	UNJAMMED
98	NONE
99	OTHER

FIGURE A-26

DIRECTORY FOR PROGRAMS TO MERGE DATA
FOR TRANSMISSION TO THE UNIVAC 1108

KEY	PROGRAM
1	MIRAH 88 DATA (DATA SHEET 9)
2	INVENTORY DATA (DATA SHEETS 10-15)

ENTER KEY FROM THE ABOVE LIST:

FIGURE A-27

DO YOU WANT TO MERGE INVENTORY DATA? (ENTER Y OR N) Y
INSERT THE INPUT DATA TAPE INTO THE CONSOLE
ENTER THE FIRST 3 LETTERS OF THE DAY OF THE WEEK: WED
INSERT OUTPUT TAPE INTO UNIT 4924
ENTER THE UNIT NUMBER YOU ARE USING FOR THE OUTPUT TAPE: 11

FIGURE A-28

DIRECTORY FOR TOTALS PROGRAMS TO UPDATE
PIG AND DRUM TOTALS AND PRINT REPORTS

KEY	PROGRAM
1	P1 - UPDATE PROCESSED ID SET TOTALS AND PRINT A DAILY REPORT
2	P2 - READ ID SET TOTALS TAPE (P1 OUTPUT) AND PRINT REPORTS FOR ANY PERIOD OF TIME
3	D1 - UPDATE DRUM TOTALS AND PRINT A DAILY REPORT
4	D2 - READ DRUM TOTALS TAPE (D1 OUTPUT) AND PRINT REPORTS FOR ANY PERIOD OF TIME
5	T1 - UPDATE DOWNTIME TOTALS
6	T2 - READ DOWNTIME TOTALS TAPE (T1 OUTPUT) AND PRINT REPORTS FOR ANY PERIOD OF TIME

ENTER KEY FROM THE ABOVE LIST:

FIGURE A-29

DO YOU WANT TO UPDATE ID SET TOTALS? (ENTER Y OR N) Y
DO YOU HAVE DATA TO ENTER? (ENTER Y OR N) Y
INSERT THE INVENTORY DATA TAPE INTO THE CONSOLE
ENTER THE FIRST 3 LETTERS OF THE DAY OF THE WEEK: WED
INSERT OUTPUT DATA TAPE (ID SET TOTALS) INTO UNIT 4924
ENTER THE UNIT NUMBER YOU ARE USING FOR THE OUTPUT TAPE: 11
DO YOU NEED TO INITIALIZE THIS TAPE? (ENTER Y OR N) N

FIGURE A-30

DO YOU WANT TO PRINT ID SET TOTALS? (ENTER Y OR N) Y
INSERT THE INPUT DATA TAPE (ID SET TOTALS) INTO UNIT 4924
ENTER THE UNIT NUMBER YOU ARE USING FOR THE DATA TAPE 11
ENTER THE BEGINNING DATE OF THE REPORT PERIOD (DDMMYY): 010180
ENTER THE ENDING DATE OF THE REPORT PERIOD (DDMMYY): 010181

FIGURE A-31

DO YOU WANT TO UPDATE DRUM TOTALS? (ENTER Y OR N) Y
DO YOU HAVE DATA TO ENTER? (ENTER Y OR N) Y
INSERT THE INVENTORY DATA TAPE INTO THE CONSOLE
ENTER THE FIRST 3 LETTERS OF THE DAY OF THE WEEK: WED

INSERT OUTPUT DATA TAPE (DRUM TOTALS) INTO UNIT 4924
ENTER THE UNIT NUMBER YOU ARE USING FOR THE OUTPUT TAPE: 11

FIGURE A-32

DO YOU WANT TO PRINT DRUM TOTALS? (ENTER Y OR N) Y
INSERT THE INPUT DATA TAPE (DRUM TOTALS) INTO UNIT 4924
ENTER THE UNIT NUMBER YOU ARE USING FOR THE DATA TAPE 11
ENTER THE BEGINNING DATE OF THE REPORT PERIOD (DDMMYY): 010681
ENTER THE ENDING DATE OF THE REPORT PERIOD (DDMMYY): 010781

FIGURE A-33

DO YOU WANT TO UPDATE DOWNTIME TOTALS? (ENTER Y OR N) Y
INSERT THE DOWNTIME DATA TAPE INTO THE CONSOLE
ENTER THE FIRST 3 LETTERS OF THE DAY OF THE WEEK: WED
INSERT OUTPUT DATA TAPE (DOWNTIME TOTALS) INTO UNIT 4924
ENTER THE UNIT NUMBER YOU ARE USING FOR THE OUTPUT TAPE: 11

FIGURE A-34

DO YOU WANT TO PRINT DOWNTIME REPORTS ? (ENTER Y OR N) Y
INSERT THE INPUT DATA TAPE (DOWNTIME TOTALS) INTO UNIT 4924
ENTER THE UNIT NUMBER YOU ARE USING FOR THE DATA TAPE 11
ENTER THE BEGINNING DATE OF THE REPORT PERIOD (DDMMYY): 010182
ENTER THE ENDING DATE OF THE REPORT PERIOD (DDMMYY): 020282

FIGURE A-35

DIRECTORY FOR DOWNTIME REPORTS

KEY	PROGRAM
---	-----
1	ALL DOWNTIME LISTED BY SUBSYSTEM
2	CHARGEABLE DOWNTIME LISTED BY SUBSYSTEM
3	NON-CHARGEABLE DOWNTIME LISTED BY SUBSYSTEM
4	ALL DOWNTIME TOTALLED BY SUBSYSTEM
5	DOWNTIME LISTED BY PRIMARY COMPONENT

ENTER KEY FROM THE ABOVE LIST:

FIGURE A-36

APPENDIX B

APPENDIX B

LISTING OF THE DATA ENTRY AND
DATA PRINT PROGRAMS

FILE 0 1

1 GO TO 100
4 GO TO 790
8 GO TO 790

+++++ 100 FPM ***** DIRECTORY FOR DATA ENTRY PROGRAMS
110 REM ***** VERSION 8 - 05/03/81

120 PAGE
130 INIT
140 SET KEY
150 DIM A\$(1)
160 PRINT "DO YOU NEED DIRECTIONS FOR USING THESE PROGRAMS? (Y OR N) "
170 INPUT A\$
180 IF A\$="Y" THEN 460

190 KPM
200 REM ***** PRINT INSTRUCTIONS *****

210 PAGE "INSTRUCTIONS FOR DATA ENTRY PROGRAMS:J"
220 PRINT "1. FOR THE FIRST RECORD, A NUMBER OF X'S WILL APPEAR."
230 PRINT "TO SHOW THE LENGTH OF EACH DATA FIELD. FOR EXAMPLE,"
240 PRINT "XXXXX NUMBERS THAT 4 OR FEWER CHARACTERS BE ENTERED.J"
250 PRINT "2. AFTER THE FIRST RECORD HAS BEEN ENTERED, INSTEAD OF."
260 PRINT "X'S, THE PREVIOUSLY ENTERED VALUE APPEARS. IF YOU."
270 PRINT "WISH TO REPEAT THIS VALUE SIMPLY PRESS THE ENTER KEY."
280 PRINT "IT IS NOT NECESSARY TO REENTER THE VALUE.J"
290 PRINT "3. IN SOME CASES (EXAMPLE: DATE, TIME, CONTROL NUMBER)."
300 PRINT "THE FIELD MUST BE COMPLETELY FILLED.J"
310 PRINT "4. NUMERICAL DATA MUST CONTAIN A DECIMAL POINT.J"
320 PRINT "5. SOME NUMERICAL DATA MAY BE PRECEDED BY A < OR >."
330 PRINT "SYMBOL. NO + OR - SIGNS ARE ALLOWED.J"
340 PRINT "6. IF AN ITEM IS MISSING ENTER: NJ."
350 PRINT "7. IF AN ITEM IS NOT APPLICABLE ENTER: NAJ."
360 PRINT "8. IF YOU MAKE AN ERROR AND WISH TO BEGIN THE RECORD."
370 PRINT "AGAIN PRESS USER DEFINABLE KEY #1 (UPPER LEFT)."
380 PRINT "REENTER DATA FROM THE BEGINNING OF THE RECORD.J"
390 PRINT "9. IF YOU WISH TO EXIT FROM A PROGRAM, PRESS USER."
400 PRINT "DEFINABLE KEY #2 (UPPER LEFT).JJ"
410 PRINT "THE PROGRAM CHECKS THE INPUT FORMATS AND WILL PROMPT."
420 PRINT "YOU IF YOU MAKE A MISTAKE.J"
430 PRINT "PRESS 'HOME PAGE' KEY TO CONTINUE."

450 REM
460 FPM ***** YOUR DATA TAPE BEEN LABELLED? (ENTER Y OR N) "
470 INPUT A\$
480 IF A\$="Y" THEN 520
490 GOTO 2
500 GOTO 2

510 FPM ***** PRINT DIRECTORY *****

520 PAGE
530 PRINT "DIRECTORY FOR 16 SETS DATA ENTRY PROGRAMS.J"
540 PRINT "VERSION 8 - 05/03/81JJJ"
550 PRINT "DATA"
560 PRINT "SHEET 1 CONTENTS"

```

560 PRINT :-----
570 PRINT : 1 ANALYST AND LAB COORD WORK SHEETS (H.CK.CN.FS.T)*
580 PRINT : 2 ANALYST AND LAB COORD WORK SHEETS (AS)*
590 PRINT : 3 ANALYST AND LAB COORD WORK SHEETS (GB)*
600 PRINT : 4 ANALYST AND LAB COORD WORK SHEETS (L)*
610 PRINT : 9 ANALYTICAL DATA SHEET (MIRAN BU)*
620 PRINT : 10 BLDG JOI RECEIPT INSPECTION*
630 PRINT : 11 PROCESS DATA - DISASSEMBLY ROOM*
640 PRINT : 12 PROCESS DATA - RESIDUE AREA (FIGS)*
650 PRINT : 13 PROCESS DATA - RESIDUE AREA (DRUMS)*
660 PRINT : 14 PROCESS DATA - SPRAY DRYER*
670 PRINT : 15 PROCESS DATA - ELECTROSTATIC PRECIPITATOR*
680 PRINT : 16 PLANT DOWNTIME DATA*

690 REM

700 PRINT "ENTER DATA SHEET NUMBER FROM THE ABOVE LIST *I
710 INPUT F
720 IF F<16 THEN 770
730 IF F<5 OR F>8 THEN 750
740 F=F-4
750 FIND F+2
760 GOTO 770
770 PRINT "INVALID DATA SHEET NUMBER - REENTER *I
780 GOTO 710
790 PRINT "END OF PROGRAM*
800 END

```

```

810 REM ***** END OF PROGRAM *****

```

1 GO TO 100
4 GO TO 230
8 GO TO 1360

+++1+++ 100 REM *** PROGRAM TO LABEL DATA ENTRY TAPES ****
110 REM VERSION 8 - 05/20/81
120 REM BY: STEARNS-ROGER, INC.
130 REM H. E. MARTIN
140 REM ****

150 INIT
160 SET KEY
170 DIM A\$(16)-M\$(8),M7(2),A\$(1),G\$(11),H\$(112),K\$(6),L\$(127),N\$(40)
180 READ H,M,N,W,A\$,S
190 N\$=""
200 H\$=H\$+H\$
210 M\$=M\$+M\$
220 PAGE
230 PRINT "JDO YOU WANT TO LABEL A DATA TAPE? (ENTER Y OR N) "

+++1+++ 240 INPUT A\$
250 IF A\$="N" THEN 1310

+++1+++ 260 PRINT "PLACE TAPE CASSETTE IN UNIT 4924."
270 PRINT "ENTER THE UNIT NUMBER YOU ARE USING FOR THE DATA TAPE "
280 INPUT U
290 PRINT "JIS THIS A BRAND NEW TAPE? (ENTER Y OR N) "

300 INPUT A\$
310 IF A\$="N" THEN 340

320 FIND EUIO

330 MARK EU,28:1,100000

+++1+++ 340 FIND EUIO

+++12+++ 350 PRINT "ENTER THE COMPLETE NAME OF THE DAY OF THE WEEK "

360 INPUT C\$

370 FOR I=1 TO 7

380 B\$=SEG\$(U,M(I),1),M(I,2))

390 IF C\$=B\$ THEN 430

400 NEXT I

410 PRINT "THIS IS NOT AN ALLOWABLE DAY. PLEASE CHECK YOUR SPELLING."

420 GO TO 350

+++1+++ 430 IF I=3 THEN 480

440 L=LEN(C\$)

450 FOR I=L+1 TO 9

460 B\$=B\$+" "

470 NEXT I

+++1+++ 480 PAGE

490 PRINT "DATA"

500 PRINT "SHEET #

510 PRINT "-----" CONTENTS "

520 PRINT " 1 ANALYST AND LAB COOKD WORK SHEETS (H, CK, CM, PB) "

530 PRINT " 2 ANALYST AND LAB COOKD WORK SHEETS (AS) "

540 PRINT " 3 ANALYST AND LAB COOKD WORK SHEETS (GB) "

550 PRINT " 4 ANALYST AND LAB COOKD WORK SHEETS (L) "

560 PRINT " 9 ANALYST AND LAB COOKD WORK SHEET (MIRAN 80) "

570 PRINT " 10-15 IDENTIFICATION DATA "

580 PRINT " 16 FLAMM DENTIME DATA "

590 REM

+++1+++ 600 PRINT "ENTER DATA SHEET NUMBER FROM THE ABOVE LIST "

```

610 INPUT N4
620 N=VAL(N4)
630 L4="KKA0000"
640 L4=L4&B4
650 G4=SEG(H4,1,H(N))
660 L4=L4&G4
670 IF N=0 AND N<17 THEN 700
680 PRINT "THIS IS NOT A VALID DATA SHEET NUMBER"
690 GO TO 600
700 GO TO N OF 740,740,740,740,740,740,740,740
710 GO TO N-Y OF 860,860,860,860,860,860,860,1010
720 REM
730 REM ***** LABEL FILE 1 FOR DATA SHEETS 1-9 *****
740 MARK GU,28:1,H(7)
750 FIND GU:1
760 IF N=5 OR N-Y THEN 800
770 V4=SEG(N4,N-3,1)
780 L4=REF(V4,5,1)
790 GO TO 810
800 L4=REF(N4,5,1)
810 I=1
820 GOSUB 1090
830 GO TO 1250
840 REM
850 REM ***** LABEL FILES 1-6 FOR DATA SHEETS 10-15 *****
860 L4=REF("1",4,1)
870 FOR I=1 TO 6
880 FIND GU:1
890 MARK GU,28:1,H(1)
900 FIND GU:1
910 L4=SEG(L4,1,16)
920 G4=SEG(H4,1,H(1+9))
930 L4=L4&G4
940 A4=SEG(K4,1,1)
950 L4=REF(A4,5,1)
960 GOSUB 1090
970 NEXT I
980 GO TO 1250
990 REM
1000 REM ***** LABEL FILE 1 FOR DATA SHEET 16 *****
1010 MARK GU,28:1,H(8)
1020 FIND GU:1
1030 L4=REF(H4,4,2)
1040 I=1
1050 GOSUB 1090
1060 GO TO 1250
1070 REM
1080 REM ***** SUBROUTINE 1 *****

```

```

1110 PRINT "IS THIS OK? (ENTER Y OR N) "
1120 INPUT A$
1130 IF A$="Y" THEN 1180
1140 PRINT "JUD YOU WANT TO TRY AGAIN? (ENTER Y OR N) "
1150 INPUT A$
1160 IF A$="Y" THEN 350
1170 GO TO 1250
1180 PRINT "00,12:L4
1200 PRINT "00,2:
1210 RETURN

1220 REM ***** END SUBROUTINE 1 *****
1230 REM
1240 REM ***** ANY MORE TAPES TO BE LABELLED? *****

+++4+++
1250 PRINT "JUD YOU WANT TO LABEL ANOTHER TAPE? (ENTER Y OR N) "
1260 INPUT A$
1270 IF A$="Y" THEN 1300
1280 PAUSE
1290 GO TO 260
1300 PRINT "JUNKHAL END OF PROGRAM"
1310 PRINT "JUD YOU WANT TO ENTER DATA? (ENTER Y OR N) "
1320 INPUT A$
1330 IF A$="N" THEN 1370
1340 FIND 1
1350 OLD
1360 PRINT "J**** ABNORMAL END OF PROGRAM ****"
1370 END

+++1+++
1380 REM
1390 REM ***** H ARRAY (16) *****
1400 DATA 111,111,111,111,111,111,111,88,34,54,15,11,11,11,84
1410 REM
1420 REM ***** M ARRAY (6) *****
1430 DATA 50000,50000,50000,10000,10000,10000,10000,100000,100000
1440 REM
1450 REM ***** W ARRAY (7,2) *****
1460 DATA 1,6,8,7,16,9,26,8,35,6,42,8,51,6
1470 REM
1480 REM ***** U4 ARRAY (60) *****
1490 DATA "MONDAY/TUESDAY/WEDNESDAY/THURSDAY/FRIDAY/SATURDAY/SUNDAY"

1500 REM
1510 REM ***** N4 ARRAY (6) *****
1520 DATA "012345"

+++1+++
1530 REM
1540 REM ***** END OF PROGRAM *****

```

FILE # 3

1 GO TO 100
4 GO TO 730
8 GO TO 2900

+++1+++ 100 REM *** DATA SHEET #1 - ANALYST WORK SHEET FOR H, CK, CN, PS, T ***
110 REM 03 - LAB DATA COORDINATOR WORK SHEET
120 REM DATA ENTRY - LOFD INPUT DATA TO TAPE
130 REM VERSION 10 - 3/5/82
140 REM
150 REM
160 REM ***

MY: STEARNS-ROGER, INC.
M. E. MARTIN

170 PAGE
180 INIT
190 SET KEY
200 DIM B(23,5),C(23,2),E(23)
210 DIM F(48),G(78),J(20),K(40),N(1),X(350),W(127),Z(127)
220 H=0
230 G=0
240 S=0
250 H\$="X XXXX.X XXX.XXXXXXXXXX XXXX.X X.XXX XXX.XXXXXXXXXXXXXXXXXXXXXX"
260 I\$="XX XXXXXXXXXXXXXXXXXX XX.XXXNA NA XXX.XX XXX.XX XXXX."
270 L\$="XXXX.X X.XXX XXX.XXXXXXXXXXXXXXXXXXXXXX"
280 PRINT "JIS THIS ANALYST WORK SHEET DATA FOR H, CK, CN OR PS?"
290 PRINT "ENTER Y OR N"
300 INPUT N\$
310 IF N\$="Y" THEN 340
320 PRINT "YOU ARE USING THE WRONG DATA ENTRY PROGRAM."
330 GO TO 2900
340 READ B,C,E,F,Y\$
350 F\$=F\$Y\$
360 READ J,N\$
370 READ X\$
380 FOR I=1 TO 6
390 READ Y\$
400 X\$=X\$Y\$
410 NEXT I
420 DELETE Y\$
430 PRINT "INSERT THE DATA TAPE INTO UNIT 4924."
440 PRINT "ENTER THE UNIT NUMBER YOU ARE USING FOR THE DATA TAPE"
450 INPUT U
460 PRINT "ENTER THE FIRST 3 LETTERS OF THE DAY OF THE WEEK"
470 INPUT T\$
480 T\$=SEG(T\$,1,3)
490 FIND EUI
500 INPUT EUI
510 G\$=SEG(EUI,4,2)
520 F\$=SEG(EUI,8,3)
530 G\$=SEG(EUI,9)
540 IF G\$="01" AND B\$=T\$ THEN 580
550 PRINT "THIS IS THE WRONG DATA TAPE"
560 PRINT "THIS TAPE IS FOR DATA SHEET #1001 FOR #104"
570 GO TO 2900
580 PRINT "JIS THIS DATA FOR A NEW WEEK? (ENTER Y OR N)"
590 INPUT N\$
600 IF N\$="Y" THEN 490
610 IF U=33 THEN 660
620 INPUT EUI

+++1+++

+++1+++

+++1+++

```

630 IF I=1 THEN 690
640 INPUT BU,13:Z$
650 GO TO 620
660 IF TYP(0)=1 THEN 690
670 INPUT BU,13:Z$
680 GO TO 650
690 Z$=RAD0110*81$
700 Z$=Z$8H$

710 REM
720 REM ***** BEGIN DATA INPUT *****

730 PAGE
740 PRINT "JREGIN DATA ENTRY FROM ANALYST WORK SHEET #1."
750 I=1
760 I2=13
770 C1=0
780 GO 0
790 FOR I=11 TO 12
800 IF I>11 OR 00=0 OR I<8 THEN 830
810 V$=NA$
820 GO TO 970
830 IF I<23 THEN 850
840 IF N=0 THEN 1060
850 D$=SEG(X$,C(1,1),C(1,2))
860 C$=SEG(Z$,B(1,1),B(1,2))
870 PRINT "ENTER "D$"; "C$
880 INPUT V$
890 IF V$="" THEN 1060
900 Z1=LEN(V$)
910 IF Z1<B(1,2) THEN 3040
920 IF V$="" THEN 1350
930 IF V$="M" THEN 960
940 V$="MISSING"
950 GO TO 1050
960 IF V$<>NA$ THEN 1010
970 FOR K1=3 TO B(1,2)
980 V$=V$1$
990 NEXT K1
1000 GO TO 1050
1010 IF I<26 THEN 1030
1020 00=1
1030 GO TO B(1,3) OF 1350,1410,1550,1570,1850,1920,2090,2190,2280,2330
1040 IF LEN(V$)<>B(1,2) THEN 3000
1050 Z$=REP(V$,B(1,1),B(1,2))
1060 NEXT I
1070 IF I2=25 THEN 2410
1080 I1=14
1090 I2=23
1100 PAGE
1110 A$=SEG(Z$,21,3)
1120 IF A$<>"Col." THEN 1170
1130 A1=SEG(Z$,8,2)
1140 Z$=REP(A$,10,2)
1150 Z1=REP(Z$,70,38)
1160 GO TO 2410
1170 A$=SEG(Z$,21,6)
1180 PRINT "JREGIN DATA ENTRY FROM LAB COORDINATOR WORK SHEET #5."
1190 PRINT "ENTER THE CONTROL NUMBER (NNNNN)."
1200 INPUT B$

```

```

1210 IF B<A THEN 1240
1220 PRINT "YOU SHOULD BE ENTERING DATA FOR "A$
1230 GO TO 1190
+++1+++
1240 A=SEG(74.8,2)
1250 Z=REP(A,10,2)
1260 PRINT "JIS THIS REANALYSIS DATA? (ENTER Y OR N) "
1270 INPUT N$
1280 IF N$<>"Y" THEN 770
1290 M=1
1300 Z4=REP("30",6,2)
1310 Z4=REP("XXXXXX",12,6)
1320 GO TO 770
1330 REM
1340 REM ***** CHECK NO. 1 - LEFT ZERO FILL *****
+++2+++
1350 IF Z1=B(1,2) THEN 1050
1360 FOR N=Z1+1 TO B(1,2)
1370 V4="Q"RV
1380 NEXT N
1390 GO TO 1050
1400 REM ***** CHECK NO. 2 - LIMITS *****
+++1+++
1410 IF Z1>B(1,2) THEN 3000
1420 FOR N=1 TO Z1
1430 E4=SEG(V4,N,1)
1440 E1=ASC(E4)
1450 IF E1>47 AND E1<58 THEN 1480
1460 PRINT "THIS ENTRY MUST BE NUMERIC"
1470 GO TO 1520
1480 NEXT N
1490 IF VAL(V4)<B(1,4) OR VAL(V4)>B(1,5) THEN 1510
1500 GO TO 1050
+++1+++
1510 PRINT B$ " MUST BE IN THE RANGE OF "B(1,4)" TO "B(1,5)
+++13+++
1520 PRINT "REENTER "B$" "
1530 GO TO 880
1540 REM ***** CHECK NO. 3 - NOT USED
+++1+++
1550 GO TO 1050
1560 REM ***** CHECK NO. 4 - LINE UP DECIMAL POINTS *****
+++1+++
1570 Q=SEG(V4,1,1)
1580 IF Q<"." OR Q>"." THEN 1620
+++1+++
1590 V4="."V4
1600 Z1=Z1+1
+++1+++
1610 IF Z1=B(1,2) THEN 1800
1620 J=POS(V4,".")
1630 IF J=0 THEN 1820
1640 J1=Z1-J
1650 K1=E(1)
1660 IF J1<1 THEN 1780
1670 IF J1=K1 THEN 1720
1680 FOR N=J1+1 TO K1
1690 V4="Q"RV
1700 NEXT N
1710 Z1=LEN(V4)
+++1+++
1720 IF Z1=B(1,2) THEN 1050

```



```

1730 IF Z1>B(1,2) THEN 1800
1740 FOR K=Z1+1 TO B(1,2)
1750 V=REF("2.0)
1760 NEXT K
1770 GO TO 1050
1780 PRINT "ONLY *K1* DECIMAL FIGURES ARE ALLOWED."
1790 GO TO 1520
1800 PRINT "THIS NUMBER HAS TOO MANY FIGURES."
1810 GO TO 1520
1820 PRINT "THIS NUMBER HAS NO DECIMAL POINT."
1830 GO TO 1520

1840 REM ***** CHECK NO. 5 - CHECK FOR < AND > *****

+++1+++
1850 IF Z1>B(1,2) THEN 3040
1860 Q=SEG(V,1,1)
1870 IF Q<="." OR Q=">" THEN 1890
1880 GO TO 1590
1890 PRINT "NO < OR > IS ALLOWED WITH THIS VALUE."
1900 GO TO 1520

1910 REM ***** CHECK NO. 6 - CONTROL NUMBER FORMAT *****

+++1+++
1920 IF Z1>B(1,2) THEN 3000
1930 FOR K=1 TO 6
1940 E=SEG(V,K,1)
1950 EI=ASC(E)
1960 IF EI<45 OR EI>90 THEN 2000
1970 IF K=5 THEN 2030
1980 PRINT "CHARACTER NUMBER *K* MUST BE NUMERIC."
1990 GO TO 1520
2000 IF K=4 AND EI>47 AND EI<58 THEN 2030
2010 PRINT "CHARACTER NUMBER *K* MUST BE ALPHABETIC."
2020 GO TO 1520
2030 NEXT K
2040 E=SEG(V,1,3)
2050 IF E<="CAL" THEN 1050
2060 C1=1
2070 GO TO 1050

2080 REM ***** CHECK NO. 7 - CHECK SET TYPE *****

+++1+++
2090 IF Z1>B(1,2) THEN 3000
2100 K4=1
2110 FOR K=1 TO 17
2120 S=SEG(V,K,4)
2130 IF V=S THEN 1050
2140 K4=K4+4
2150 NEXT K
2160 PRINT "V* IS NOT A VALID SET TYPE."
2170 GO TO 1520

2180 REM ***** CHECK NO. 8 - LOCATION *****

+++1+++
2190 K2=1
2200 FOR K=1 TO 20
2210 S1=SEG(V,K,2)
2220 IF V=S1 THEN 1050
2230 K2=K2+2
2240 NEXT K

```

```

2250 PRINT V$1: IS NOT A VALID LOCATION*
2260 GO TO 1520

2270 REM ***** CHECK NO. 9 - PURPOSE *****
2280 IF V$="FL" OR V$="OP" OR V$="OL" OR V$="CA" THEN 1050
2290 PRINT V$1: IS NOT A VALID PURPOSE CODE*
2300 GO TO 1520

2310 REM
2320 REM ***** CHECK NO. 10 - ACCEPTABLE CHEMICAL AGENTS *****
2330 IF V$<"H" AND V$<"T" THEN 2360
2340 V$=V$1:
2350 GO TO 1050
2360 IF V$="CN" OR V$="PS" THEN 1050
2370 PRINT V$1: MUST BE H, CK, CN OR PS*
2380 GO TO 1520

2390 REM
2400 REM ***** WRITE RECORD TO TAPE AND CHECK FOR COMMENTS *****
2410 Z1=LEN(Z$)
2420 IF Z1<127 THEN 2960
2430 PRINT @41Z$
2440 PRINT @41Z$
2450 PRINT "JIS THERE AN ANALYST'S COMMENT? (ENTER Y OR N) *
2460 INPUT N$
2470 IF N$<"Y" THEN 2760

2480 REM
2490 REM ***** PROCESS COMMENTS *****
2500 N=1
2510 IF "ANALYST'S"
2520 A$=SEG(J$,N,2)
2530 U$=Z$
2540 U$=REF(A$,6,2)
2550 U$=REF(G$,34,7B)
2560 PRINT "JENTER COMMENT (72 CHARACTERS OR LESS)*
2570 INPUT C$
2580 Z1=LEN(C$)
2590 IF Z1<72 THEN 2620
2600 PRINT "THIS COMMENT IS TOO LONG*
2610 GO TO 2560
2620 U$=REF(C$,34,Z1)
2630 Z1=LEN(U$)
2640 IF Z1<127 THEN 2960
2650 PRINT @41U$
2660 PRINT @41U$
2670 IF A$=9 THEN 2760
2680 IF N=19 THEN 2840
2690 PRINT "JIS THERE ANOTHER 'JIS' COMMENT? (ENTER Y OR N) *
2700 INPUT N$
2710 N=N+1
2720 IF N$<"Y" THEN 2520

2730 REM
2740 REM ***** MORE COMMENTS *****

```

```

2750 IF N>10 THEN 2840
2760 PRINT "JIS THERE A LAB. DATA COORD. COMMENT? (ENTER Y OR N) "
2770 INPUT N$
2780 IF N$="Y" THEN 2840
2790 N=11
2800 I$="LAB. DATA COORD."
2810 GO TO 2520

2820 REM
2830 REM ***** CHECK END OF DATA *****
2840 M=0
2850 Z$=REFC("10",6,2)
2860 PRINT "JHORE DATA? (ENTER Y OR N) N WILL END PROGRAM) "
2870 INPUT N$
2880 IF N$="N" THEN 730
2890 GO TO 2920
2900 PRINT "J**** ABNORMAL PROGRAM END ****"
2910 GO TO 2930
2920 PRINT "JNORMAL PROGRAM END"
2930 PRINT "00,2:"
2940 END

2950 REM ***** DIAGNOSTIC MESSAGES *****
2960 PRINT "ERROR IN LENGTH OF Z$"
2970 PRINT "JTHE LAST ENTRY WAS DISREGARDED. REENTER ENTIRE RECORD"
2980 GO TO 740
2990 REM

3000 PRINT "THE STRING MUST BE COMPLETELY FILLED - EXACTLY 'B(1,2)'"
3010 PRINT " CHARACTERS"
3020 GO TO 1520
3030 REM

3040 PRINT D$:" CANNOT BE LONGER THAN 'B(1,2)'. CHARACTERS"
3050 GO TO 1520
3060 REM
3070 REM ***** B ARRAY (23,5) *****
3080 DATA 8,2,1,0,0,12,6,0,0,18,2,10,0,0,20,1,2,1,6
3090 DATA 21,6,6,0,0,27,7,5,0,0,48,7,4,0,0,55,7,4,0,0
3100 DATA 62,7,4,0,0,69,7,5,0,0,76,7,4,0,0,83,4,2,0,2,400,87,3,0,0,0
3110 DATA 10,2,1,0,0,112,4,7,0,0,116,2,8,0,0,118,2,9,0,0
3120 DATA 120,4,2,0,2,400,124,4,2,0,2,400,90,7,5,0,0
3130 DATA 97,6,5,0,0,103,9,4,0,0,12,6,0,0,0
3140 REM
3150 REM ***** C ARRAY (23,2) *****
3160 DATA 1,11,13,28,52,5,57,13,71,14,86,22,108,11,120,19
3170 DATA 140,8,147,14,163,23,186,13,200,8
3180 DATA 211,11,222,18,231,8,240,7,248,10,259,9,268,7,276,21,298,24
3190 DATA 322,15
3200 REM
3210 REM ***** E ARRAY (23) *****

```

3220 DATA 0.0,0.0,0.3,2,2,1,1,2,0.0,0.0,0.0,0.1,3,4,0

3230 REM

3240 REM ***** F\$ ARRAY (68) *****

3250 DATA 'K9-1K942N945K951K952K953K954K955'

3260 DATA 'X302X545X546X547X548X549X550X551X552'

3270 REM

3280 REM ***** J\$ ARRAY (20) AND K\$ ARRAY (40) *****

3290 DATA '202122323242526272829'

3300 DATA 'D6S1C6K6A6E6C6C6V6H6K6X6E6N6A6E6A6E6S6S6U6S6E6L6A6O6T6D6S'

3310 REM

3320 REM ***** X\$ ARRAY (350) *****

3330 DATA 'PAGE NUMBER/DATE OF THE SAMPLE COLLECTION (DDHHYY)/AGENT'

3340 DATA 'SERIAL NUMBER/CONTROL NUMBER/CALIBRATION STD. CONC.'

3350 DATA 'PEAK HEIGHT/AGENT CONCENTRATION/DILUTION/BUBBLER VOLUME'

3360 DATA 'CONCENTRATION(/SAMPLE)/ANALYSIS TIME/INITIALS***PAGE NUMBER'

3370 DATA 'SET TYPE/LOCATION/PURPOSE/START TIME/STOP TIME'

3380 DATA 'AIRFLOW/CONTROL CONCENTRATION/AIR SAMPLE CONCENTRATION'

3390 DATA 'REANALYSIS DATE'

3400 REM

3410 REM ***** END OF PROGRAM *****

1 GO TO 100
4 GO TO 730
8 GO TO 2800

+++1+++ 100 REM **** DATA SHEET #2 - ANALYST WORK SHEET FOR AS *****
110 REM #2 - LAB DATA COORDINATOR WORK SHEET
120 REM DATA ENTRY - LOAD INPUT DATA TO TAPE
130 REM VERSION V - 10/29/81
140 REM
150 REM BY: STEWANS-ROGER, INC.
160 REM ***** M. E. MARTIN *****

170 PAGE
180 INIT
190 SET KEY
200 DIM R(22,5),C(22,2),E(22)
210 DIM F(68),G(78),J(20),K(38),N(1),X(350),M(127),Z(127)
220 M=0
230 G=0
240 G=GSIGS
250 M=XX.X XXX.XXXXXXXX XXXX.X X.XXX XXX.XXXXXXXXXXXXXXXXXXXXXX
260 L=XX.X XXXXXL XXXXXX XX.XXNA NA XX.XXX XXX.XX XXXX.
270 L=XX.X XXXX.X X.XXX XXX.XXXXXXXXXXXXXXXXXXXXXX
280 PRINT "JIS THIS ANALYST WORK SHEET DATA FOR AS? (ENTER Y OR N) *"
290 REM

300 INPUT M\$
310 IF M= "Y" THEN 340
320 PRINT "JYGO ARE USING THE WRONG DATA ENTRY PROGRAM"
330 GO TO 1300

+++1+++ 340 READ R,C,E,F,G
350 READ J=NS
360 READ AS
363 FOR I=1 TO 6
370 READ Y
400 AS=XSTY
410 NEXT I
420 DELETE Y

430 PRINT "INSERT THE DATA TAPE INTO UNIT 4924"
440 PRINT "ENTER THE UNIT NUMBER YOU ARE USING FOR THE DATA TAPE *"
450 INPUT U
460 PRINT "ENTER THE FIRST 3 LETTERS OF THE DAY OF THE WEEK *"

470 INPUT Y
480 Y=SEG(Y,1,3)
490 FIND OUT
500 INPUT G(13,7)
510 AS SEG(G,1,2)
520 F=J(1,1,8,3)
530 F=SEG(F,1,8)

540 IF G= "Y" AND B= "Y" THEN 580
550 PRINT "THIS IS THE WRONG DATA TAPE"
560 PRINT "THIS TAPE IS FOR DATA SHEET #1 JAN 1" FOR "JG"

570 GO TO 2800
580 PRINT "JIS THIS DATA FOR A NEW WEEK? (ENTER Y OR N) *"
590 INPUT M\$
600 IF M= "Y" THEN 670

```

++11+++ 410 IF U-33 THEN 440
        420 INPUT Q0.6:1
        430 IF 1-1 THEN 490
        440 INPUT Q0.13:28
        450 GO TO 420
        460 IF 17P(0)=1 THEN 490
        470 INPUT Q0.13:28
        480 GO TO 440
        490 28="KMAQ210"116
        500 28="L68H"

```

```

710 KFM
720 REM ***** BEGIN DATA INPUT *****

```

```

++21+++ 730 PAGE
++11+++ 740 PRINT "JBEGIN DATA ENTRY FROM ANALYST WORK SHEET #2"
750 11=1

```

```

++21+++ 760 12=12
770 C1=0
780 Q0=0
790 FOR I=11 TO 12
800 IF I>10 OR Q0=0 OR 1<7 THEN 830
810 V1="NA"
820 GO TO 970

```

```

++11+++ 830 IF 1<22 THEN 850
840 IF M=0 THEN 1040
850 D=SEG(1,C(1,1),C(1,2))
860 C4=SEG(2,B(1,1),B(1,2))
870 PRINT "ENTER 'D', 'C', '1C'
880 INPUT V1
890 IF V1="." THEN 1040
900 Z1=LEN(V1)

```

```

910 IF Z1=8(1,2) THEN 2940
920 IF V1="." THEN 1350
930 IF V1="M" THEN 960
940 V4="MISSING"
950 GO TO 1050
960 IF V1="NA" THEN 1010
970 FOR K=3 TO 8(1,2)
980 V8=V82
990 NEXT K1

```

```

1000 GO TO 1050
1010 IF 1<5 THEN 1030
1020 Q0=1
1030 GO TO 8(1,3) OF 1350,1410,1550,1630,1900,2070,2170,2240
1040 IF LEN(V4)/8(1,2) THEN 2900
1050 Z4=LEN(V4)/8(1,1),B(1,2))
1060 NEXT 1

```

```

1070 IF 1<22 THEN 2310
1080 11=13
1090 12=22
1100 PAGE
1110 G(1,3)=G(2,2),2)
1120 IF A1="C" THEN 1170
1130 A1=SEG(2,4,6,2)
1140 Z4=LEN(A1)/6,10,2)
1150 Z4=LEN(A1)/6,10,2)
1160 GO TO 2310

```

```

1170 A3=SEG(2,4,23,6)
1180 PRINT "JBEGIN DATA ENTRY FROM LAB COORDINATOR WORK SHEET #4"

```

```

++++1+++ 1190 PRINT "ENTER THE CONTROL NUMBER (AANNNN)"
1200 INPUT B$
1210 IF B$=A$ THEN 1240
1220 PRINT "YOU SHOULD BE ENTERING DATA FOR "A$
1230 GO TO 1190
++++1+++ 1240 A$=SEG$(Z$,8,2)
1250 Z$=REP$(A$,10,2)
1260 PRINT "JIS THIS REANALYSIS DATA? (ENTER Y OR N) "
1270 INPUT N$
1280 IF N$="Y" THEN 770
1290 H=1
1300 Z$=REP("30",6,2)
1310 Z$=REP("XXXXXX",12,6)
1320 GO TO 770
1330 REM
1340 REM ***** CHECK NO. 1 - LEFT ZERO FILL *****
++++1+++ 1350 IF Z1=B(1,2) THEN 1050
1360 FOR K=Z1+1 TO B(1,2)
1370 V$="0"
1380 NEXT K
1390 GO TO 1050
1400 REM ***** CHECK NO. 2 -LIMITS *****
++++1+++ 1410 IF Z1>B(1,2) THEN 2900
1420 FOR K=1 TO Z1
1430 E$=SEG$(V$,K,1)
1440 E1=ASC(E$)
1450 IF E1<47 AND E1<58 THEN 1480
1460 PRINT "THIS ENTRY MUST BE NUMERIC"
1470 GO TO 1520
1480 NEXT K
1490 IF VAL(V$)>B(1,4) OR VAL(V$)>B(1,5) THEN 1510
1500 GO TO 1050
1510 PRINT "MUST BE IN THE RANGE OF "B(1,4)" TO "B(1,5)
++++1+++ 1520 PRINT "JGREENIER "D$". "C$
1530 GO TO 800
1540 REM ***** CHECK NO. 4 - LINE UP DECIMAL POINTS *****
++++1+++ 1550 G$=SEG$(V$,1,1)
1560 IF G$="." OR G$=">" THEN 1600
1570 V$=" "
1580 Z1=Z1+1
1590 IF Z1>B(1,2) THEN 1780
1600 J$=FSG(V$,1,1)
1610 IF J$=0 THEN 1600
1620 J1=Z1-J
1630 N1=E(1)
1640 IF J1<1 THEN 1760
1650 IF J1=1 THEN 1700
1660 FOR K=J1+1 TO N1
1670 V$ V$1+G$
1680 NEXT K
1690 Z1=LEN(V$)
1700 IF Z1>B(1,2) THEN 1050
1710 IF Z1>B(1,2) THEN 1780
1720 FOR K=Z1+1 TO B(1,2)

```

```

1730 V=REP(*,2.0)
1740 NEXT K
1750 GO TO 1050
+++1+++
1760 PRINT "ONLY 'K1' DECIMAL FIGURES ARE ALLOWED"
+++2+++
1770 GO TO 1520
1780 PRINT "THIS NUMBER HAS TOO MANY FIGURES"
+++1+++
1790 GO TO 1520
1800 PRINT "THIS NUMBER HAS NO DECIMAL POINT"
1810 GO TO 1520

1820 REM ***** CHECK NO. 5 - CHECK FOR < AND > *****
+++1+++
1830 IF Z1>B(1,2) THEN 2940
1840 G=SEG(V,K,1)
1850 IF G="<" OR G=">" THEN 1870
1860 GO TO 1570
+++1+++
1870 PRINT "NO < OR > ALLOWED WITH THIS VALUE"
1880 GO TO 1520

1890 REM ***** CHECK NO. 6 - CONTRA NUMBER FORMAT *****
+++1+++
1900 IF Z1<B(1,2) THEN 2900
1910 FOR N=1 TO 6
1920 E=SEG(V,K,1)
1930 E1=ASC(E)
1940 IF E1<65 OR E1>90 THEN 1980
1950 IF N=6 THEN 2010
1960 PRINT "CHARACTER NUMBER 'K1' MUST BE NUMERIC"
1970 GO TO 1520
+++1+++
1980 IF K24 AND E1>47 AND E1<58 THEN 2010
1990 PRINT "CHARACTER NUMBER 'K1' MUST BE ALPHABETIC"
2000 GO TO 1520
+++2+++
2010 NEXT N
2020 E=SEG(V,K,3)
2030 IF E="CM" THEN 1050
2040 C1=1
2050 GO TO 1050

2060 REM ***** CHECK NO. 7 - CHECK SET TYPE *****
+++1+++
2070 IF Z1<B(1,2) THEN 2900
2080 K4=1
2090 FOR N=1 TO 17
2100 S=SEG(F,K4,4)
2110 IF S="S" THEN 1050
2120 K4=K4+4
2130 NEXT N
2140 PRINT "S IS NOT A VALID SET TYPE"
2150 GO TO 1520

2160 REM ***** CHECK NO. 8 - LOCATION *****
+++1+++
2170 K2=1
2180 FOR N=1 TO 19
2190 S=SEG(A,K2,2)
2200 IF S="S" THEN 1050
2210 K2=K2+2
2220 NEXT N
2230 PRINT "S IS NOT A VALID LOCATION"
2240 GO TO 1520

```



```

2250 REM ***** CHECK NO. 9 - PURPOSE *****
+++1+++ 2260 IF V$="PL" OR V$="OP" OR V$="OL" OR V$="CA" THEN 1050
2270 PRINT V$1: IS NOT A VALID PURPOSE CODE.
2280 GO TO 1520

2290 REM
2300 REM ***** WRITE RECORD TO TAPE AND CHECK FOR COMMENTS *****
+++2+++ 2310 Z1=LEN(Z1)
2320 IF Z1<127 THEN 2860
2330 PRINT @41:Z1
2340 PRINT @0:12:Z1
2350 PRINT "JIS THERE AN ANALYST'S COMMENT? (ENTER Y OR N) "
2360 INPUT N$
2370 IF N$="Y" THEN 2660

2380 REM
2390 REM ***** PROCESS COMMENTS *****
+++2+++ 2400 N=1
2410 I$="ANALYST'S"
2420 A$=SEG(J$,N,2)
2430 W$=Z1
2440 W$=REP(A$,6,2)
2450 W$=REP(G$,34,78)
+++1+++ 2460 PRINT "JENIER COMMENT (72 CHARACTERS OR LESS)."
2470 INPUT C$
2480 Z1=LEN(C$)
2490 IF Z1<72 THEN 2520
2500 PRINT "THIS COMMENT IS TOO LONG."
2510 GO TO 2460
+++1+++ 2520 W$=REP(C$,34,Z1)
2530 Z1=LEN(W$)
2540 IF Z1<127 THEN 2860
2550 PRINT @41:W$
2560 PRINT @0:12:W$
2570 IF N=9 THEN 2660
2580 IF N=19 THEN 2740
2590 PRINT "JIS THERE ANOTHER 'JIS' COMMENT? (ENTER Y OR N) "
2600 INPUT N$
2610 N=N+2
2620 IF N="Y" THEN 2420

2630 REM
2640 REM ***** MORE COMMENTS *****
+++2+++ 2650 IF N>10 THEN 2740
2660 PRINT "JIS THERE A LAB. DATA COORD. COMMENT? (ENTER Y OR N) "
2670 INPUT N$
2680 IF N<>"Y" THEN 2740
2690 N=11
2700 I$="LAB. DATA COORD."
2710 GO TO 2420

2720 REM
2730 REM ***** CHECK END OF DATA *****
+++3+++ 2740 M=0

```

```

2750 Z$=REP('10',6,2)
2760 PRINT "JHORE DATA? (ENTER Y OR N) N WILL END PROGRAM) "
2770 INPUT N$
2780 IF N<>"N" THEN 730
2790 GO TO 2820
+++3+++
2800 PRINT "J***** ABNORMAL PROGRAM END *****"
2810 GO TO 2830
+++1+++
2820 PRINT "J***** ABNORMAL PROGRAM END*****"
2830 PRINT "00,2:"
2840 END

2850 REM ***** DIAGNOSTIC MESSAGES *****
+++2+++
2860 PRINT "ERROR IN LENGTH OF Z$"
2870 PRINT "JTHE LAST ENTRY WAS DISREGARDED. REENTER ENTIRE RECORD"
2880 GO TO 740
2890 REM

+++4+++
2900 PRINT "THE STRING MUST BE COMPLETELY FILLED - EXACTLY 'B(I,2)'"
2910 PRINT "CHARACTERS"
2920 GO TO 1520
2930 REM

+++2+++
2940 PRINT D$ " CANNOT BE LONGER THAN 'B(I,2)'. CHARACTERS"
2950 GO TO 1520
2960 REM
2970 REM ***** B ARRAY (22,5) *****
2980 DATA 8,2,1,0,0,12,6,0,0,0,20,1,2,1,5
2990 DATA 21,6,6,0,0,27,7,5,0,0,48,7,4,0,0,55,7,4,0,0
3000 DATA 62,7,4,0,0,69,7,5,0,0,76,7,4,0,0,83,4,2,0,2400,87,3,0,0,0
3010 DATA 10,2,1,0,0,112,4,7,0,0,116,2,8,0,0,118,2,9,0,0
3020 DATA 120,4,2,0,2400,124,4,2,0,2400,90,7,5,0,0
3030 DATA 57,6,5,0,0,103,9,4,0,0,12,6,0,0,0
3040 REM
3050 REM ***** C ARRAY (22,2) *****
3060 DATA 1,11,13,38,57,13,71,14,86,22,108,11,120,19
3070 DATA 140,8,149,14,163,23,186,13,200,8
3080 DATA 211,11,222,8,231,8,240,7,248,10,259,9,268,7,276,21,298,24
3090 DATA 322,15
3100 REM
3110 REM ***** E ARRAY (22) *****
3120 DATA 0,0,0,0,3,3,2,1,1,2,0,0,0,0,0,0,0,0,1,3,4,0
3130 REM
3140 REM ***** F$ ARRAY (48) *****
3150 DATA "K941K942K945K951K952K953K954K955"
3160 DATA "X302X545X546X547X548X549X550X551X552"
3170 REM
3180 REM ***** J$ ARRAY (20) AND K$ ARRAY (38) *****

```

3190 DATA *2012223242526272829*
3200 DATA *DKSTLKRADEDCCVHONHXFNAAABEAE9SUSSELAOT*
3210 REM
3220 REM ***** X4 ARRAY (350) *****
3230 DATA *PAGE NUMBER/DATE OF THE SAMPLE COLLECTION (DDHHYY) .
3240 DATA *SERIAL NUMBER/CONTROL NUMBER/CALIBRATION STD. CONC.*
3250 DATA *PEAK HEIGHT/AGENT CONCENTRATION/DILUTION/BUBBLER VOLUME*
3260 DATA *CONCENTRATION(/SAMPLE)/ANALYSIS TIME/INITIALS***PAGE NUMBER*
3270 DATA *SET TYPE/LOCATION/PURPOSE/START TIME/STOP TIME*
3280 DATA *AIRFLOW/CONTROL CONCENTRATION/AIR SAMPLE CONCENTRATION*
3290 DATA *REANALYSIS DATE*
3300 REM
3310 REM ***** END OF PROGRAM *****

FILE # 5

1 GO TO 100
4 GO TO 730
8 GO TO 2800

+++1+++ 100 REM *** DATA SHEET #3 - ANALYST WORK SHEET FOR GB
110 REM #7 - LAB DATA COORDINATOR WORK SHEET
120 REM DATA ENTRY - LOAD INPUT DATA TO TAPE
130 REM VERSION 9 - 10/29/81
140 REM
150 REM BY: STEARNS-ROGER, INC.
160 REM M. E. MARTIN

170 PAGE
180 INIT
190 SET KEY
200 DIM B(22,5),C(22,2),E(22)
210 DIM F(72),G(70),J(20),K(38),N(1),X(350),N(127),Z(127)
220 M=0
230 G1=0
240 G1=G1+1
250 H1=X XXXX.X XXX.XXXXXXXX XXXX.X X.XXX XXX.XXXXXXXX
260 I1=X XXXX.X XXXX.XXXXXXXX XXXX.X XXXX.X XXXX.X
270 L1=X XXXX.X XXXX.XXXXXXXX XXXX.X XXXX.X XXXX.X
280 PRINT "JIS THIS ANALYST WORK SHEET DATA FOR GB? (ENTER Y OR N)"
290 REM

300 INPUT N1
310 IF N1=Y THEN 340
320 PRINT "YOU ARE USING THE WRONG DATA ENTRY PROGRAM"
330 GO TO 2800
340 READ B,C,E,F,Y
350 F=F+Y
360 READ J,K
370 READ X
380 FOR I=1 TO 6
390 READ Y
400 X=X+Y
410 NEXT I
420 DELETE Y
430 PRINT "JINSERT THE DATA TAPE INTO UNIT 4924"
440 PRINT "ENTER THE UNIT NUMBER YOU ARE USING FOR THE DATA TAPE"
450 INPUT U
460 PRINT "ENTER THE FIRST 3 LETTERS OF THE DAY OF THE WEEK"
470 INPUT T
480 T=SEG(T,1,3)
490 FIND G1
500 INPUT G1
510 G1=SEG(G1,4,2)
520 L1=SEG(L1,8,3)
530 G1=SEG(G1,8,9)
540 IF G1="05" AND B=1 THEN 560
550 PRINT "THIS IS THE WRONG DATA TAPE"
560 PRINT "THIS TAPE IS FOR DATA SHEET #1A1" FOR "IC"
570 GO TO 2800
580 PRINT "JIS THIS DATA FOR A NEW WEEK? (ENTER Y OR N)"
590 INPUT N1
600 IF N1=Y THEN 690

+++1+++ 100 REM *** DATA SHEET #3 - ANALYST WORK SHEET FOR GB
110 REM #7 - LAB DATA COORDINATOR WORK SHEET
120 REM DATA ENTRY - LOAD INPUT DATA TO TAPE
130 REM VERSION 9 - 10/29/81
140 REM
150 REM BY: STEARNS-ROGER, INC.
160 REM M. E. MARTIN

170 PAGE
180 INIT
190 SET KEY
200 DIM B(22,5),C(22,2),E(22)
210 DIM F(72),G(70),J(20),K(38),N(1),X(350),N(127),Z(127)
220 M=0
230 G1=0
240 G1=G1+1
250 H1=X XXXX.X XXX.XXXXXXXX XXXX.X X.XXX XXX.XXXXXXXX
260 I1=X XXXX.X XXXX.XXXXXXXX XXXX.X XXXX.X XXXX.X
270 L1=X XXXX.X XXXX.XXXXXXXX XXXX.X XXXX.X XXXX.X
280 PRINT "JIS THIS ANALYST WORK SHEET DATA FOR GB? (ENTER Y OR N)"
290 REM

300 INPUT N1
310 IF N1=Y THEN 340
320 PRINT "YOU ARE USING THE WRONG DATA ENTRY PROGRAM"
330 GO TO 2800
340 READ B,C,E,F,Y
350 F=F+Y
360 READ J,K
370 READ X
380 FOR I=1 TO 6
390 READ Y
400 X=X+Y
410 NEXT I
420 DELETE Y
430 PRINT "JINSERT THE DATA TAPE INTO UNIT 4924"
440 PRINT "ENTER THE UNIT NUMBER YOU ARE USING FOR THE DATA TAPE"
450 INPUT U
460 PRINT "ENTER THE FIRST 3 LETTERS OF THE DAY OF THE WEEK"
470 INPUT T
480 T=SEG(T,1,3)
490 FIND G1
500 INPUT G1
510 G1=SEG(G1,4,2)
520 L1=SEG(L1,8,3)
530 G1=SEG(G1,8,9)
540 IF G1="05" AND B=1 THEN 560
550 PRINT "THIS IS THE WRONG DATA TAPE"
560 PRINT "THIS TAPE IS FOR DATA SHEET #1A1" FOR "IC"
570 GO TO 2800
580 PRINT "JIS THIS DATA FOR A NEW WEEK? (ENTER Y OR N)"
590 INPUT N1
600 IF N1=Y THEN 690

```

+++1+++ 610 IF U=33 THEN 660
        620 INPUT @U,61T
        630 IF 1=1 THEN 690
        640 INPUT @U,131Z$
        650 GO TO 620
+++2+++ 660 IF 1YF(0)=1 THEN 690
        670 INPUT @U,131Z$
        680 GO TO 660
+++3+++ 690 Z$=RM0310*81$
        700 Z$=Z$8H$

710 REM
720 REM ***** BEGIN DATA INPUT *****
+++2+++ 730 PAGE
+++1+++ 740 PRINT "JBEGIN DATA ENTRY FROM ANALYST WORK SHEET #3."
        750 I1=1
+++2+++ 760 I2=12
        770 C1=0
        780 C0=0
        790 I=1 TO 12
        800 IF I>10 OR C0=0 OR I<7 THEN 830
        810 V$="NA"
        820 GO TO 970
+++1+++ 830 IF I<22 THEN 850
        840 IF M=0 THEN 1060
+++1+++ 850 I$=SEG(X$C(I,1),C(I,2))
        860 C$=SEG(Z$,B(I,1),B(I,2))
        870 PRINT "ENTER "I$;" "C$
+++1+++ 880 INPUT V$
        890 IF V$="" THEN 1060
        900 Z1=LEN(V$)
        910 IF Z1>B(I,2) THEN 2940
        920 IF V$="" THEN 1350
        930 IF V$<>"M" THEN 960
        940 V$="MISSING"
        950 GO TO 1050
+++1+++ 960 IF V$<>"NA" THEN 1010
+++1+++ 970 FOR K1=3 TO B(I,2)
        980 V1=V$K1
        990 NEXT K1
        1000 GO TO 1050
+++1+++ 1010 IF I<5 THEN 1030
        1020 C0=1
+++1+++ 1030 GO TO B(I,3) OF 1350,1410,1550,1830,1900,2070,2170,2260
        1040 IF LEN(V$)>B(I,2) THEN 2900
+++12+++ 1050 Z$=REP(V$,B(I,1),B(I,2))
+++2+++ 1060 NEXT I
        1070 IF I2=22 THEN 2310
        1080 I1=13
        1090 I2=22
        1100 PAGE
        1110 A$=SEG(Z$,21,3)
        1120 IF A$<>"CAL" THEN 1170
        1130 A$=SEG(Z$,8,2)
        1140 Z$=REP(A$,10,2)
        1150 Z$=REP(14,90,38)
        1160 GO TO 2310
+++1+++ 1170 A$=SEG(Z$,21,6)
        1180 PRINT "JBEGIN DATA ENTRY FROM LAB COORDINATOR WORK SHEET #7."

```

```

+++1+++ 1190 PRINT "ENTER THE CONTROL NUMBER (AAANNN)".
1200 INPUT N$
1210 IF N$=A$ THEN 1240
1220 PRINT "YOU SHOULD BE ENTERING DATA FOR "A$
1230 GO TO 1190

+++1+++ 1240 A$=SEG(N$,8,2)
1250 Z$=REP(A$,10,2)
1260 PRINT "JIS THIS REANALYSIS DATA? (ENTER Y OR N) "
1270 INPUT N$
1280 IF N$<>"Y" THEN 770
1290 M=1
1300 Z$=REP("30",6,2)
1310 Z$=REP("XXXXXX",12,6)
1220 GO TO 770

1330 REM
1340 REM ***** CHECK NO. 1 - LEFT ZERO FILL *****

+++2+++ 1350 IF Z1=B(1,2) THEN 1050
1360 FOR K=Z1+1 TO B(1,2)
1370 V$="0"V$
1380 NEXT K
1390 GO TO 1050

1400 REM ***** CHECK NO. 2 - LIMITS *****

+++1+++ 1410 IF Z1<>B(1,2) THEN 2900
1420 FOR K=1 TO Z1
1430 E$=SEG(V$,K,1)
1440 E1=ASC(E$)
1450 IF E1>47 AND E1<58 THEN 1480
1460 PRINT "THIS ENTRY MUST BE NUMERIC."
1470 GO TO 1520
1480 NEXT K
1490 IF VAL(V$)<E(1,4) OR VAL(V$)>B(1,5) THEN 1510
1500 GO TO 1050
1510 PRINT "MUST BE IN THE RANGE OF "B(1,4)" TO "B(1,5)
+++12+++ 1520 PRINT "REENTER "V$"; "
1530 GO TO 860

1540 REM ***** CHECK NO. 4 - LINE UP DECIMAL POINTS *****

+++2+++ 1550 Q$=SEG(V$,1,1)
1560 IF Q$="." OR Q$=">" THEN 1600
1570 V$=" "V$
1580 Z1=Z1+1
1590 IF Z1>B(1,2) THEN 1780
1600 J=POS(V$,".")
1610 IF J=0 THEN 1800
1620 J1=Z1-J
1630 K1=E(1)
1640 IF J1=N1 THEN 1760
1650 IF J1=N1 THEN 1700
1660 FOR K=J1+1 TO K1
1670 V$=V$+"0"
1680 NEXT K
1690 Z1=LEN(V$)
1700 IF Z1=B(1,2) THEN 1050
1710 IF Z1>B(1,2) THEN 1780
1720 FOR N=Z1+1 TO B(1,2)

```

```

1730 V:=REP(' ',2,0)
1740 NEXT K
1750 GO TO 1050
+++1+++ 1760 PRINT 'ONLY 'K1;' DECIMAL FIGURES ARE ALLOWED'
1770 GO TO 1520
+++2+++ 1780 PRINT 'THIS NUMBER HAS TOO MANY FIGURES'
1790 GO TO 1520
+++1+++ 1800 PRINT 'THIS NUMBER HAS NO DECIMAL POINT'
1810 GO TO 1520

1820 REM ***** CHECK NO. 5 - CHECK FOR < AND > *****
+++1+++ 1830 IF Z1>R(I,2) THEN 2940
1840 G:=SEG(V$,1,1)
1850 IF Q$<'<' OR Q$='>' THEN 1870
1860 GO TO 1520
+++1+++ 1870 PRINT 'NO < OR > IS ALLOWED WITH THIS VALUE'
1880 GO TO 1520

1890 REM ***** CHECK NO. 6 - CONTROL NUMBER FORMAT *****
+++1+++ 1900 IF Z1<>R(I,2) THEN 2900
1910 FOR K=1 TO 6
1920 E:=SEG(V$,K,1)
1930 E:=ASC(E)
1940 IF E<65 OR E>90 THEN 1980
1950 IF K=5 THEN 2010
1960 PRINT 'CHARACTER NUMBER 'K;' MUST BE NUMERIC'
1970 GO TO 1520
+++1+++ 1980 IF N=4 AND E=47 AND E1<58 THEN 2010
1990 PRINT 'CHARACTER NUMBER 'K;' MUST BE ALPHABETIC'
2000 GO TO 1520
+++2+++ 2010 NEXT K
2020 E:=SEG(V$,1,3)
2030 IF E<>'CAL' THEN 1050
2040 C1=1
2050 GO TO 1050

2060 REM ***** CHECK NO. 7 - CHECK SET TYPE *****
+++1+++ 2070 IF Z1<>R(I,2) THEN 2900
2080 K4=1
2090 FOR K=1 TO 18
2100 S:=SEG(F$,K,4)
2110 IF V$=S THEN 1050
2120 K4=K4+4
2130 NEXT K
2140 PRINT V$; ' IS NOT A VALID SET TYPE'
2150 GO TO 1520

2160 REM ***** CHECK NO. 8 - LOCATION *****
+++1+++ 2170 K2=1
2180 FOR K=1 TO 19
2190 S:=SEG(N$,K,2)
2200 IF V$=S THEN 1050
2210 K2=K2+2
2220 NEXT K
2230 PRINT V$; ' IS NOT A VALID LOCATION'
2240 GO TO 1520

```

```

2250 REM ***** CHECK NO. 9 - PURPOSE *****
+++1+++
2260 IF V$="PL" OR V$="OP" OR V$="OI" OR V$="CA" THEN 1050
2270 PRINT V$; " IS NOT A VALID PURPOSE CODE."
2280 GO TO 1520

2290 REM
2300 REM ***** WRITE RECORD TO TAPE AND CHECK FOR COMMENTS *****
+++2+++
2310 Z1=LEN(Z$)
2320 IF Z1<127 THEN 2860
2330 PRINT @411Z$
2340 PRINT @0,12:Z$
2350 PRINT "JIS THERE AN ANALYST'S COMMENT? (ENTER Y OR N) ";
2360 INPUT N$
2370 IF N$<>"Y" THEN 2660

2380 REM
2390 REM ***** PROCESS COMMENTS *****
2400 N=1
2410 I$="ANALYST'S"
2420 A$=SEG(J$,N,2)
2430 W$=Z$
2440 W$=REP(A$,6,2)
2450 W$=REP(G$,34,78)
2460 PRINT "ENTER COMMENT (72 CHARACTERS OR LESS)";
2470 INPUT C$
2480 Z1=LEN(C$)
2490 IF Z1<72 THEN 2520
2500 PRINT "THIS COMMENT IS TOO LONG."
2510 GO TO 2460
2520 W$=REP(C$,34,Z1)
2530 Z1=LEN(W$)
2540 IF Z1<127 THEN 2660
2550 PRINT @411W$
2560 PRINT @0,121W$
2570 IF N=9 THEN 2660
2580 IF N=19 THEN 2740
2590 PRINT "JIS THERE ANOTHER 'JIS' COMMENT? (ENTER Y OR N) ";
2600 INPUT N$
2610 N=N+2
2620 IF N$<>"Y" THEN 2420

2630 REM
2640 REM ***** MORE COMMENTS *****
+++2+++
2650 IF N>10 THEN 2740
2660 PRINT "JIS THERE A LAB. DATA COORD. COMMENT? (ENTER Y OR N) ";
2670 INPUT N$
2680 IF N$<>"Y" THEN 2740
2690 N=N+1
2700 I$="LAB. DATA COORD."
2710 GO TO 2420

2720 REM
2730 REM ***** CHECK END OF DATA *****
+++3+++
2740 N=0

```



```

2750 Z=REP('10',6,2)
2760 PRINT 'JMORE DATA? (ENTER Y OR N) N WILL END PROGRAM'
2770 INPUT N$
2780 IF N$<>'N' THEN 730
2790 GO TO 2820
+++13+++
2800 PRINT 'J*** ABNORMAL PROGRAM END ***'
2810 GO TO 2830
+++11+++
2820 PRINT 'JNORMAL PROGRAM END'
+++11+++
2830 PRINT 'U,2:'
2840 END

2850 REM ***** DIAGNOSTIC MESSAGES *****
+++2+++
2860 PRINT 'ERROR IN LENGTH OF Z$'
2870 PRINT 'JTHE LAST ENTRY WAS DISREGARDED. REENTER ENTIRE RECORD'
2880 GO TO 740
2890 REM

+++4+++
2900 PRINT 'THE STRING MUST BE COMPLETELY FILLED - EXACTLY 'JB(1,2)''
2910 PRINT 'CHARACTERS'
2920 GO TO 1520
2930 REM

+++2+++
2940 PRINT 'I$' CANNOT BE LONGER THAN 'JB(1,2)'' CHARACTERS'
2950 GO TO 1520
2960 REM
2970 REM ***** B ARRAY (22,5) *****
2980 DATA 8,2,1,0,0,12,6,0,0,0,20,1,2,1,5
2990 DATA 21,6,6,0,0,27,7,5,0,0,48,7,4,0,0,55,7,4,0,0
3000 DATA 42,7,4,0,0,69,7,5,0,0,76,7,4,0,0,83,4,2,0,0,2400,87,3,0,0,0
3010 DATA 10,2,1,0,0,112,4,7,0,0,116,2,8,0,0,118,2,9,0,0
3020 DATA 120,4,2,0,2400,124,4,2,0,2400,90,7,5,0,0
3030 DATA 97,6,5,0,0,103,2,4,0,0,12,6,0,0,0
3040 REM
3050 REM ***** C ARRAY (22,2) *****
3060 DATA 1,11,13,38,57,13,71,14,86,22,108,11,120,19
3070 DATA 140,8,149,14,163,22,186,13,200,8
3080 DATA 211,11,222,8,231,8,240,7,248,10,259,9,268,7,276,21,298,24
3090 DATA 322,15
3100 REM
3110 REM ***** E ARRAY (22) *****
3120 DATA 0,0,0,0,3,2,2,1,1,2,0,0,0,0,0,0,0,1,3,4,0
3130 REM
3140 REM ***** F$ ARRAY (72) *****
3150 DATA 'A941N942K945K951K952K953K954K955'
3160 DATA 'X302X545X546X547X548X549X550X551X552DATA$'
3170 REM
3180 REM ***** J$ ARRAY (20) AND K$ ARRAY (38) *****

```

3190 DATA *20212233245526273029*
3200 DATA *DKSTCKRADECCVHUKHXENNAAREAESSUSSELA01*
3210 REM
3220 REM ***** X\$ ARRAY (350) *****
3230 DATA *PAGE NUMBER/DATE OF THE SAMPLE COLLECTION (DDHHYY)
3240 DATA *SERIAL NUMBER/CONTROL NUMBER/CALIBRATION STD. CONC.*
3250 DATA *PEAK HEIGHT/AGENT CONCENTRATION/DILUTION/BUBBLER VOLUME*
3260 DATA *CONCENTRATION(/SAMPLE)/ANALYSIS TIME/INITIALS****PAGE NUMBER*
3270 DATA *SET TYPE/LOCATION/PURPOSE/START TIME/STOP TIME*
3280 DATA *AIRFLOW/CONTROL CONCENTRATION/AIR SAMPLE CONCENTRATION*
3290 DATA *REANALYSIS DATE*
3300 REM
3310 REM ***** END OF PROGRAM *****

```

1 GO TO 100
4 GO TO 730
8 GO TO 2600

+++++
100 REM *** DATA SHEET #4 - ANALYST WORK SHEET FOR L      ****
110 REM
120 REM
130 REM
140 REM
150 REM
160 REM ***
170 PAGE
180 INIT
190 SET KEY
200 DIM R(22,5),C(22,2),E(22)
210 DIM F(63),G(78),J(20),K(38),N(1),X(350),M(127),Z(127)
220 N=0
230 G=0
240 G=G+1
250 H$="X XXXX.X XXX.XXXXXXXXXX XXXX.X X.XX XXX.XXXXXXXXXXXXXXXXXXXXX"
260 I$="XX XXXXXL XXXXXN XX.XXXN NA XXXX. XXX.XX XXXX."
270 L$="XXXX.X XXXX.XXXXXXXXXXXXXXXXXXXXX"
280 PRINT "JIS THIS ANALYST WORK SHEET DATA FOR LT (ENTER Y OR N) ";
290 REM

300 INPUT N$
310 IF N$="Y" THEN 340
320 PRINT "YOU ARE USING THE WRONG DATA ENTRY PROGRAM"
330 GO TO 2800
340 READ H$,C$,E$,Y$
350 L$=F$+L$
360 READ J$,K$
370 READ X$
380 FOR I=1 TO 6
390 READ Y$
400 X$=X$+Y$
410 NEXT I
420 DELETE Y$
430 PRINT "INSERT THE DATA TAPE INTO UNIT 4524"
440 PRINT "ENTER THE UNIT NUMBER YOU ARE USING FOR THE DATA TAPE ";
450 INPUT U
460 PRINT "ENTER THE FIRST 3 LETTERS OF THE DAY OF THE WEEK ";
470 INPUT D$
480 L$=L$+D$+I$+J$
490 FOR Q=1 TO 13
500 INPUT Q$,R$,S$,T$
510 M$=L$+Q$(2)+R$(2)+S$(2)+T$(2)
520 L$=L$+M$+Z$(2)+Z$(3)
530 L$=L$+G$(2)+G$(3)
540 IF G$="04" AND B$="1" THEN 380
550 PRINT "THIS IS THE WRONG DATA TAPE"
560 PRINT "THIS TAPE IS FOR DATA SHEET #4JAN" FOR "JCA"
570 GO TO 2600
580 PRINT "JIS THIS DATA FOR A NEW WEEK? (ENTER Y OR N) ";
590 INPUT N$
600 IF N$="Y" THEN 290

```

```

++1+++ 610 IF U=33 THEN 660
        620 INP JT 20,6:1
        630 IF I=1 THEN 690
        640 INP JT 20,13:28
        650 GO TO 620
        660 IF TYP(0)=1 THEN 690
        670 INP JT 20,13:28
        680 GO TO 660
        690 25-KN00410-118
        700 Z6=Z6+1

```

```

710 END
720 REM ***** BEGIN DATA INPUT *****

```

```

++2+++ 730 PAGE
++1+++ 740 PRINT "JBEGIN DATA ENTRY FROM ANALYST WORK SHEET 64."

```

```

750 I=1
760 I=12
770 C1=0
780 DO 800
      790 FOR I=11 TO 12
      800 IF I=10 OR 00=0 OR I<7 THEN 830
      810 V1="NA"
      820 GO TO 970

```

```

++1+++ 830 IF I=22 THEN 850
      840 IF M=0 THEN 1060
      850 P=SEG(V1,C(1,1),C(1,2))
      860 C=SEG(V1,C(1,1),C(1,2))
      870 PRINT "ENTER "P"; "C
      880 INP JT 20,13:28
      890 IF V1="NA" THEN 1060

```

```

900 21-LEN(V1)
910 IF 21-LEN(V1) THEN 2940
920 IF V1=" " THEN 1350
930 IF V1="M" THEN 960
940 V1="MISSING"
950 GO TO 1070

```

```

++1+++ 960 IF V1="NA" THEN 1010
++1+++ 970 FOR K=3 TO 6(1,2)
      980 V1=V1+K
      990 NEXT K

```

```

++1+++ 1000 GO TO 1050
      1010 IF I=25 THEN 1030
      1020 03=1

```

```

++1+++ 1030 GO TO 6(1,3) OF 1350,1410,1550,1830,1906,2070,2170,2260
      1040 IF LEN(V1) THEN 2900
      1050 78-AFF(V1,C(1,1),C(1,2))

```

```

++1+++ 1060 REAT 1
      1070 IF I=22 THEN 2310
      1080 I=13
      1090 I=22

```

```

1100 PAGE
1110 25-SEG(V1,C(1,1),C(1,2))
1120 IF V1="NA" THEN 1170
1130 21-LEN(V1)
1140 78-AFF(V1,C(1,1),C(1,2))
1150 21-LEN(V1)
1160 GO TO 2310
1170 25-SEG(V1,C(1,1),C(1,2))

```

```

++1+++ 1180 PRINT "JBEGIN DATA ENTRY FROM LAB COORDINATOR WORK SHEET 68."

```

```

++11++ 1190 PRINT "ENTER THE CONTROL NUMBER (NANNNN)."
1200 INPUT B
1210 IF B=A$ THEN 1240
1220 PRINT "YOU SHOULD BE ENTERING DATA FOR "A$
1230 GO TO 1190
++11++ 1240 A$=SEG$(Z$*8*2)
1250 Z$=REP$(A$,10*2)
1260 PRINT "JIS THIS REANALYSIS DATAT (ENTER Y OR N) "
1270 INPUT N$
1280 IF N$>"Y" THEN 770
1290 N$=1
1300 Z$=REP$("30",6*2)
1310 Z$=REP$("XXXXXX",12*6)
1320 GO TO 770
1330 REM
1340 REM ***** CHECK NO. 1 - LEFT ZERO FILL *****
++12++ 1350 IF Z1=B(1,2) THEN 1050
1360 FOR N=Z1+1 TO B(1,2)
1370 V$="0"XV$
1380 NEXT N
1390 GO TO 1050
1400 REM ***** CHECK NO. 2 - LIMITS *****
++11++ 1410 IF Z1>B(1,2) THEN 2900
1420 FOR N=1 TO Z1
1430 E$=SEG$(V$,K*1)
1440 E1=ASC(E$)
1450 IF E1>47 AND E1<58 THEN 1480
1460 PRINT "THIS ENTRY MUST BE NUMERIC"
1470 GO TO 1520
1480 NEXT N
1490 IF VAL(V$)<B(1,4) OR VAL(V$)>B(1,5) THEN 1510
1500 GO TO 1050
++11++ 1510 PRINT B$ " MUST BE IN THE RANGE OF "B(1,4)" TO "B(1,5)
++12++ 1520 PRINT "REENTER "B$". "C$
1530 GO TO 800
1540 REM ***** CHECK NO. 4 - LINE UP DECIMAL POINTS *****
++12++ 1550 G$=SEG$(V$,1*1)
1560 IF G$="." OR G$=">" THEN 1600
++11++ 1570 V$=" "XV$
1580 Z1=Z1+1
1590 IF Z1>B(1,2) THEN 1780
++11++ 1600 J=POS(V$,",",1)
1610 IF J=0 THEN 1900
1620 J1=Z1-J
1630 A1=E(I)
1640 IF J1<1 THEN 1760
++11++ 1650 IF J1<1 THEN 1700
1660 FOR N=J1+1 TO K1
1670 V$=V$A$0.
1680 NEXT N
1690 Z1=LEN(V$)
1700 IF Z1=B(1,2) THEN 1050
++11++ 1710 IF Z1>B(1,2) THEN 1780
1720 FOR N=Z1+1 TO B(1,2)

```

```

1730 V=REF(*,2.0)
1740 NEXT N
1750 GO TO 1050
+++++
1760 PRINT "ONLY 'IKI' DECIMAL FIGURES ARE ALLOWED"
1770 GO TO 1520
+++++
1780 PRINT "THIS NUMBER HAS TOO MANY FIGURES"
1790 GO TO 1520
+++++
1800 PRINT "THIS NUMBER HAS NO DECIMAL POINT"
1810 GO TO 1520

1820 REM ***** CHECK NO. 5 - CHECK FOR < AND > *****
+++++
1830 IF Z1<B(I,2) THEN 2940
1840 S=SEG(V*,1,1)
1850 IF S="<" OR S=">" THEN 1870
1860 GO TO 1570
+++++
1870 PRINT "NO < OR > IS ALLOWED WITH THIS VALUE"
1880 GO TO 1520

1890 REM ***** CHECK NO. 6 - CONTROL NUMBER FORMAT *****
+++++
1900 IF Z1<B(I,2) THEN 2900
1910 FOR K=1 TO 6
1920 E=SEG(V*,K,1)
1930 C1=ASC(E)
1940 IF E1<65 OR E1>90 THEN 1980
1950 IF N=5 THEN 2010
1960 PRINT "CHARACTER NUMBER 'IKI' MUST BE NUMERIC"
1970 GO TO 1520
+++++
1980 IF N=4 AND E1<47 AND E1<58 THEN 2010
1990 PRINT "CHARACTER NUMBER 'IKI' MUST BE ALPHABETIC"
2000 GO TO 1520
+++++
2010 NEXT K
2020 F1=SEG(V*,1,3)
2030 IF F1<"CAL" THEN 1050
2040 C1=1
2050 GO TO 1050

2060 REM ***** CHECK NO. 7 - CHECK SET TYPE *****
+++++
2070 IF Z1<B(I,2) THEN 2900
2080 N=1
2090 FOR N=1 TO 17
2100 S=SEG(F*,N,4)
2110 IF S="S" THEN 1050
2120 N=N+4
2130 NEXT N
2140 PRINT "V* IS NOT A VALID SET TYPE"
2150 GO TO 1520

2160 REM ***** CHECK NO. 8 - LOCATION *****
+++++
2170 N2=1
2180 FOR N=1 TO 19
2190 S=SEG(K*,N2,2)
2200 IF S="S" THEN 1050
2210 N2=N2+2
2220 NEXT N
2230 PRINT "V* IS NOT A VALID LOCATION"
2240 GO TO 1520

```

```

2250 REM ***** CHECK NO. 9 - PURPOSE *****
+++1+++ 2260 IF V$='FL' OR V$='GP' OR V$='QL' OR V$='CA' THEN 1050
2270 PRINT V$; ' IS NOT A VALID PURPOSE CODE.'
2280 GO TO 1520

2290 REM
2300 REM ***** WRITE RECORD TO TAPE AND CHECK FOR COMMENTS *****
+++2+++ 2310 Z1=LEN(Z$)
2320 IF Z1<127 THEN 2860
2330 PRINT @41;Z$
2340 PRINT @0;12;Z$
2350 PRINT 'JIS THERE AN ANALYST'S COMMENT? (ENTER Y OR N) '
2360 INPUT N$
2370 IF N$>'Y' THEN 2660

2380 REM
2390 REM ***** PROCESS COMMENTS *****
2400 N=1
2410 I$='ANALYST'S'
2420 A$=SEG(J$,N,2)
2430 W$=Z$
2440 W$=REP(A$,6,2)
2450 W$=REP(G$,34,78)
+++1+++ 2460 PRINT 'ENTER COMMENT (72 CHARACTERS OR LESS)'.
2470 INPUT C$
2480 Z1=LEN(C$)
2490 IF Z1>72 THEN 2520
2500 PRINT 'THIS COMMENT IS TOO LONG.'
2510 GO TO 2460
2520 W$=REP(C$,34,Z1)
2530 Z1=LEN(W$)
2540 IF Z1<127 THEN 2660
2550 PRINT @41;W$
2560 PRINT @0;12;W$
2570 IF N$>'Y' THEN 2660
2580 IF N$=19 THEN 2740
2590 PRINT 'JIS THERE ANOTHER 'JIS' COMMENT? (ENTER Y OR N) '
2600 INPUT N$
2610 N=N+2
2620 IF N$>'Y' THEN 2420

2630 REM
2640 REM ***** MORE COMMENTS *****
+++2+++ 2650 IF N>10 THEN 2740
2660 PRINT 'JIS THERE A LAB. DATA COORD. COMMENT? (ENTER Y OR N) '
2670 INPUT N$
2680 IF N$>'Y' THEN 2740
2690 N=11
2700 I$='LAB. DATA COORD.'
2710 GO TO 2420

2720 REM
2730 REM ***** CHECK END OF DATA *****
+++2+++ 2740 H=0

```

```

2750 Z$=REP("10",6,2)
2760 PRINT "JMORE DATA? (ENTER Y OR N) N WILL END PROGRAM) "
2770 INPUT N$
2780 IF N$="N" THEN 730
2790 GO TO 2820
+++3+++
2800 PRINT "J*** ABNORMAL PROGRAM END ***"
2810 GO TO 2830
+++1+++
2820 PRINT "JNORMAL PROGRAM END"
2830 PRINT "U,2:"
2840 END

2850 REM ***** DIAGNOSTIC MESSAGES *****
+++2+++
2860 PRINT "ERROR IN LENGTH OF Z$"
2870 PRINT "THE LAST ENTRY WAS DISREGARDED. REENTER ENTIRE RECORD"
2880 GO TO 740

2890 REM

+++4+++
2900 PRINT "THE STRING MUST BE COMPLETELY FILLED - EXACTLY 'B(1,2)'"
2910 PRINT "CHARACTERS"
2920 GO TO 1520

2930 REM

+++2+++
2940 PRINT "B:" CANNOT BE LONGER THAN 'B(1,2)'. CHARACTERS"
2950 GO TO 1520

2960 REM ***** B ARRAY (22,5) *****
2970 REM ***** B ARRAY (22,5) *****
2980 DATA 8,2,1,0,0,1,2,6,0,0,0,20,1,1,2,1,5
2990 DATA 21,6,6,0,0,27,7,5,0,0,48,7,4,0,0,55,7,4,0,0
3000 DATA 62,7,4,0,0,69,7,5,0,0,76,7,4,0,0,83,4,2,0,2400,87,3,0,0,0
3010 DATA 10,2,1,0,0,112,4,7,0,0,116,2,8,0,0,118,2,9,0,0
3020 DATA 120,4,2,0,2400,124,4,2,0,2400,90,7,5,0,0
3030 DATA 97,6,5,0,0,103,9,4,0,0,12,6,0,0,0

3040 REM ***** C ARRAY (22,2) *****
3050 REM ***** C ARRAY (22,2) *****
3060 DATA 1,11,13,30,57,13,71,14,84,22,108,11,120,19
3070 DATA 140,8,149,14,143,22,186,13,200,8
3080 DATA 211,11,222,8,231,8,240,7,248,10,259,9,268,7,276,21,298,24
3090 DATA 322,15

3100 REM ***** E ARRAY (22) *****
3110 REM ***** E ARRAY (22) *****
3120 DATA 0,0,0,0,3,0,2,1,1,2,0,0,0,0,0,0,0,0,1,3,4,0

3130 REM ***** F ARRAY (68) *****
3140 REM ***** F ARRAY (68) *****
3150 DATA "K941N942K945K951N952N953K954K955"
3160 DATA "X302X545X546X547X548X549X550X551X552"

3170 REM ***** J ARRAY (20) AND K ARRAY (38) *****
3180 REM ***** J ARRAY (20) AND K ARRAY (38) *****

```


3190 DATA *2012223242526272829*
3200 DATA *URSTCKRAEEDCCUHQHREXENNAABEAESSUSL AOT*
3210 KEM
3220 KEM ***** X4 ARRAY (350) *****
3230 DATA *PAGE NUMBER/DATE OF THE SAMPLE COLLECTION (DDMMYY) .
3240 DATA *SERIAL NUMBER/CONTROL NUMBER/CALIBRATION STD. CONC.*
3250 DATA *PEAK HEIGHT/AGENT CONCENTRATION/DILUTION/BUBBLER VOLUME*
3260 DATA *CONCENTRATION(/SAMPLE)/ANALYSIS TIME/INITIALS***PAGE NUMBER*
3270 DATA *SET TYPE/LOCATION/PURPOSE/START TIME/STOP TIME*
3280 DATA *AIRFLOW/CONTROL CONCENTRATION/AIR SAMPLE CONCENTRATION*
3290 DATA *REANALYSIS DATE*
3300 KEM
3310 FLM ***** END OF PROGRAM *****

1 60 TO 100
4 60 TO 660
8 60 TO 2040

```

+++++ 100 REM *** DATA SHEET # 9 - ANALYTICAL DATA SHEET FOR MIRAN 80 ***
      110 REM DATA ENTRY - LOAD INPUT DATA TO TAPE
      120 REM VERSION 10 - 3/5/82

```

140 RLM ***
150 RLM ***
BY: STEAKS-ROGER, INC.
M. E. MARTIN
4444

MODIFIED BY: Computer Sciences Corporation
Isaac Willy Traxler
April 8, 1982

155 REM
156 REM PROGRAM MODIFIED TO ACCEPT NEW FORMAT FOR QL DATA SHEET
157 REM

160 INIT
170 SET KEY
180 DIM B(23,5),C(23,2),I(2,17)
190 DIM F(68),J+(10),K+(38),N+(1),X+(450),W+(104),Z+(104)
200 DIM .

210 G4= .
220 I4=XXXXXXXXXXXXX.XXXXXX.XXXXXXXX.XXXXXX.XXXXX
230 I4=XX XXXXXX XXXXXXXX XXXXXXXXXXXXXXXX.XXXXXX.
240 PRINT "LUATA ENTRY PROGRAM FOR MIRAN80"

260 Keith Jr, K & F

270 115 Y\$

980 F 43 Y 4

200 JULY 1965

300 READ X8
310 END: TEL TO 7

320 F.F.A. Y3

350 05.5

3-10 MAX I

3:06 PM

3.55 READ IO
3.60 PRINT : JINSEK THE OUTPUT DATA TAPE INTO UNIT 4324:

370 PRINT "ENTER THE UNIT NUMBER YOU ARE USING FOR THE OUTPUT TAPE "

380 INPUT 0
390 PRINT : JENTER THE FIRST 3 LETTERS OF THE DAY OF THE WEEK :>

41 IN-FIT COR

410 14=5EG(74,1,3)

420 FIVE GU:1

4:50 PM ET 07/10/11

440 $AX = EG(Z^8, 4, 2)$

 $11.0 \pm 0.5 \text{ [6 (Zs, 8, 3)]}$

420) CALLS.D(2408,7)
440 IF A=09* ADD B=1\$ THEN 510

429 FRONT "THIS IS THE WRONG DATA TAPE."

505 40 10 2530
0502 01 07 005

 510 PRINT "JIS THIS DATA FOR A NEW WEEK? (ENTER Y OR N)"

520 INPUT Ns

0709 NELL, J. 41 650

2025.11.23 11:33 AM

```

+++1+++ 550 INPUT GU,61Y
560 IF I=1 THEN 620
570 INPUT GU,13:Z$
580 GO TO 550
+++2+++ 590 IF TYP(O)=1 THEN 620
500 INPUT GU,13:Z$
610 GO TO 590
+++4+++ 620 Z$=RMADY10*11$
630 Z$=Z$H$
640 REM
650 REM ***** BEGIN DATA INPUT *****
+++2+++ 660 PRINT
665 I1=1
670 FOR I2=1 TO 17
675 I=10(I1,I2)
680 B=SEG(X$C(I,1),C(I,2))
690 C=SEG(Z$B(I,1),B(I,2))
700 PRINT "ENTER "J(I)$" "J(C$
+++1+++ 710 INPUT V$
712 IF I<4 THEN 720
714 IF V$<>"QL" THEN 720
716 I1=2
720 IF V$="" THEN 870
730 Z1=LEN(V$)
740 IF Z1>B(I,2) THEN 2150
750 IF V$="" THEN 910
760 IF V$<>"H" THEN 790
770 V$="MISSING"
780 GO TO 860
+++1+++ 790 IF V$<>"NA" THEN 840
800 FOR K1=3 TO B(I,2)
810 V$=V$J$
820 NEXT K1
830 GO TO 860
+++1+++ 840 GO TO B(I,3) OF 910,970,1110,1210,1300,1340,1590
850 IF LEN(V$)>B(I,2) THEN 2110
+++10+++ 860 Z4=REF(V$,B(I,1),B(I,2))
+++1+++ 870 NEXT I2
880 GO TO 1670
890 REM
900 REM ***** CHECK NO. 1 - LEFT ZERO FILL *****
+++2+++ 910 IF Z1=B(I,2) THEN 860
920 FOR K=Z1+1 TO B(I,2)
930 V$="0"Z$
940 NEXT K
950 GO TO 860
960 REM ***** CHECK NO. 2 - LIMITS *****
+++1+++ 970 IF Z1>B(I,2) THEN 2110
980 FOR K=1 TO Z1
990 C1=SEG(V$,K,1)
1000 E1=ASC(E$)
1010 IF E1>47 AND E1<58 THEN 1040
1020 PRINT "THIS ENTRY MUST BE NUMERIC"
1030 GO TO 1000

```

```

+++11111 1040 NEXT K
1050 IF VAL(V$)<B(I,4) OR VAL(V$)>B(I,5) THEN 1070
1060 GO TO 860
+++11111 1070 PRINT U$; " MUST BE IN THE RANGE OF 'B(I,4)' TO 'B(I,5)'
+++11111 1080 PRINT "REENTER 'B(I,4)' TO 'B(I,5)'"
1090 GO TO 710

1100 REM ***** CHECK NO. 3 - ACCEPTABLE SET TYPES *****
+++11111 1110 IF Z1<B(I,2) THEN 2110
1120 K1=1
1130 FOR K=1 TO 17
1140 S$=SEG(F$,K,4)
1150 IF V$=S$ THEN 860
1160 K1=K+1
1170 NEXT K
1180 PRINT V$; " IS NOT A VALID SET TYPE"
1190 GO TO 1080

1200 REM ***** CHECK NO. 4 - LOCATIONS *****
+++11111 1210 K2=1
1220 FOR K=1 TO 19
1230 S$=SEG(K$,K,2)
1240 IF V$=S$ THEN 860
1250 K2=K+1
1260 NEXT K
1270 PRINT V$; " IS NOT AN ALLOWABLE LOCATION"
1280 GO TO 1080

1290 REM ***** CHECK NO. 5 - PURPOSE *****
+++11111 1300 IF V$='PL' OR V$='QL' OR V$='CA' THEN 860
1310 PRINT V$; " IS NOT A VALID PURPOSE CODE"
1320 GO TO 1080

1330 REM ***** CHECK NO. 6 - LINE UP DECIMAL POINTS *****
+++11111 1340 O$=SEG(V$,1,1)
1350 IF O1='.' OR O2='.' THEN 1390
1360 V1=V$
1370 Z1=Z1+1
1380 IF Z1<B(I,2) THEN 1540
1390 J=POS(V$,",")
1400 IF J=0 THEN 1560
1410 J1=Z1-J
1420 GO TO J1 OF 1440,1450,1520,1520,1520
1430 V4=V$+O
1440 V3=V$+O
1450 Z1=Z1+1
1460 IF Z1<B(I,2) THEN 860
1470 IF Z1<B(I,2) THEN 1540
1480 FOR K=Z1+1 TO B(I,2)
1490 V$=REP(F$,2,0)
1500 NEXT K
1510 GO TO 860
1520 PRINT "ONLY TWO DECIMAL FIGURES ARE ALLOWED"
1530 GO TO 1080
+++21111 1540 PRINT "THIS NUMBER HAS TOO MANY FIGURES"
1550 GO TO 1080

```

```

+++1+++ 1560 PRINT 'THIS NUMBER HAS NO DECIMAL POINT'
1570 GO TO 1080

1580 REM ***** CHECK NO. 7 - CHECK FOR < AND > *****

+++1+++ 1590 IF Z1>B(I,2) THEN 2150
1600 Q=SEG(V,1,1)
1610 IF Q=<'<' OR Q=>'>' THEN 1630
1620 GO TO 1360
1630 PRINT 'NO < OR > IS ALLOWED WITH THIS VALUE'
1640 GO TO 1080

1650 REM
1660 REM ***** WRITE RECORD TO TAPE AND CHECK FOR COMMENTS *****

+++1+++ 1670 Z1=LEN(Z$)
1680 IF Z1<104 THEN 2070
1690 PRINT @41;Z$
1700 PRINT @0,12;Z$
1710 PRINT 'JIS THERE A COMMENT? (ENTER Y OR N) '
1720 INPUT N$
1730 IF N$<>'Y' THEN 2000

1740 REM
1750 REM ***** PROCESS COMMENTS *****

+++1+++ 1760 N=1
1770 A$=SEG(J$,N,2)
1780 W$=Z$
1790 W$=REP(A$,6,2)
1800 W$=REP(W$,37,34)
1810 W$=REP(W$,71,34)
1820 PRINT 'ENTER COMMENT (68 CHARACTERS OR LESS)'
1830 INPUT C$
1840 Z1=LEN(C$)
1850 IF Z1<68 THEN 1860
1860 PRINT 'THIS COMMENT IS TOO LONG'
1870 GO TO 1820
1880 Q$=REP(C$,37,Z1)
1890 Z1=LEN(Q$)
1900 IF Z1<104 THEN 2070
1910 PRINT @41;W$
1920 PRINT @0,12;W$
1930 IF N=9 THEN 2000
1940 PRINT 'JIS THERE ANOTHER COMMENT? (ENTER Y OR N) '
1950 INPUT N$
1960 N=N+2
1970 IF N$<>'Y' THEN 1770

1980 REM
1990 REM ***** CHECK END OF DATA *****

+++1+++ 2000 PRINT 'MORE DATA? (ENTER Y OR N; N WILL END PROGRAM) '
2010 INPUT N$
2020 IF N$<>'N' THEN 660
2030 PRINT @0,2;
2040 PRINT 'PROGRAM FINISHED'
2050 END

2060 REM ***** DIAGNOSTIC MESSAGES *****

```

```

++12+++ 2070 PRINT "ERROR IN LENGTH OF Z"
2080 PRINT "THE LAST ENTRY WAS DISREGARDED. REENTER ENTIRE RECORD"
2090 GO TO 620
2100 REM

++13+++ 2110 PRINT "THE STRING MUST BE COMPLETELY FILLED - EXACTLY 'B(1,2)'"
2120 PRINT "CHARACTERS."
2130 GO TO 1080
2140 REM

++14+++ 2150 PRINT B;" CANNOT BE LONGER THAN 'B(1,2)'. CHARACTERS."
2160 GO TO 1020
2170 REM
2180 REM ***** B ARRAY (23,5) *****
2190 DATA 8,2,1,0,0,12,6,0,0,0,20,2,4,0,0,22,2,5,0,0,24,1,2,1,6
2200 DATA 25,4,3,0,0,29,4,2,0,2400,33,4,2,0,2400,37,7,6,0,0
2210 DATA 44,7,6,0,0,51,3,0,0,0,54,7,6,0,0,61,7,6,0,0
2220 DATA 63,3,0,0,0,71,7,6,0,0,78,7,6,0,0,85,3,0,0,0
2230 DATA 37,7,6,0,0,44,7,6,0,0,54,7,6,0,0
2240 DATA 61,7,6,0,0,71,7,6,0,0,78,7,6,0,0
2250 REM
2260 REM ***** C ARRAY (23,2) *****
2270 DATA 1,11,13,38,52,8,60,7,68,22,91,8,100,10,111,9,120,29,150,19
2280 DATA 170,8,176,23,204,15,220,8,228,27,256,17,274,8
2290 DATA 282,26,309,25,334,22,357,21,370,24,403,23
2300 REM
2310 REM ***** J# ARRAY (10) AND K# ARRAY (38) *****
2320 REM ***** J# ARRAY (10) AND K# ARRAY (38) *****
2330 DATA "202122324"
2340 DATA "DKSTCKKAPDCCVHUKHXENNAEAEAESSSELNOT"
2350 REM
2360 REM ***** F# (68) *****
2370 DATA "N941K942K945K951N952K953K954K955"
2380 DATA "X302X545X546X547X548X549X550X551X552"
2390 REM
2400 REM ***** X# (450) *****
2410 DATA "PAGE NUMBER/DATE OF THE SAMPLE COLLECTION (DDMMYY)/LOCATION"
2420 DATA "PURPOSE/SERIAL NUMBER OF HIRAN/SET TYPE/START TIME/STOP TIME"
2430 DATA "CHLOROPICRIN - 1 HOUR AVERAGE/CHLOROPICRIN - PEAK/INITIALS"
2440 DATA "PHOSGENE - 1 HOUR AVERAGE/PHOSGENE - PEAK/INITIALS"
2450 DATA "CHLOROPICRIN - 1 HOUR AVERAGE/CHLOROPICRIN - PEAK/INITIALS"
2460 DATA "CHLOROPICRIN - TARGET CONC/CHLOROPICRIN - FOUND CONC"
2470 DATA "PHOSGENE - TARGET CONC/PHOSGENE - FOUND CONC"
2480 DATA "CHLOROPICRIN - TARGET CONC/CHLOROPICRIN - FOUND CONC"
2490 REM
2500 REM ***** IO(2,17) *****
2510 REM *****
2520 REM *****

```

2450 DATA 1,2,5,6,3,4,7,8,9,10,11,12,13,14,15,16,17
2460 DATA 1,2,5,6,3,4,7,8,10,19,11,20,21,14,22,23,17

9430 REM ***** END OF PROGRAM *****

```

1 GO TO 100
4 GO TO 670
6 GO TO 1540

+++++ 100 DIM ***** DATA SHEET # 10 - BLDG 1611 RECEIPT INSPECTION *****
110 REM DATA ENTRY - LOAD INPUT DATA TO TAPE
120 REM VERSION 8 - 06/08/81
130 REM
140 REM BY: STEAKNS-KOCER, INC.
150 REM M. E. MARTIN *****

160 PAGE
170 INIT
180 SET KEY
190 DIM B(7,5),C(7,2),F$(68),J$(10),N$(1),X$(170),Z$(70)
200 GOTO 210
210 H$="XX XXXXXXXXXXXXXXXX"
220 PRINT "JIS THIS BLDG 1611 RECEIPT INSPECTION DATA? (ENTER Y OR N) "
230 INPUT N$
240 IF N$="Y" THEN 270
250 PRINT "YOU ARE USING THE WRONG DATA ENTRY PROGRAM"
260 GO TO 1540
+++++ 270 READ B,C
280 READ J$,F$
290 READ Y$
300 I$=F$AY$
310 DELETE Y$
320 READ X$
330 FOR I=1 TO 3
340 READ Y$
350 X$=X$AY$
360 NEXT I
370 DELETE Y$
380 PRINT "JINSERT THE DATA TAPE INTO UNIT 492A"
390 PRINT "ENTER THE UNIT NUMBER YOU ARE USING FOR THE DATA TAPE "
400 INPUT U
410 PRINT "ENTER THE FIRST 3 LETTERS OF THE DAY OF THE WEEK "
420 INPUT I$
430 I$=SIG(I$,1,3)
440 END GO:1
450 INPUT DU,13:Z$
460 A$=SEG(Z$,1,2)
470 I$=SIG(Z$,1,3)
480 I$=SEG(Z$,1,3)
490 IF A$="10" AND I$=I$ THEN 530
500 PRINT "JTHIS IS THE WRONG DATA TAPE"
510 PRINT "JTHIS TAPE IS FOR DATA SHEET #1A$ FOR "
520 GO TO 1530
+++++ 530 PRINT "JIS THIS DATA FOR A NEW WEEK? (ENTER Y OR N) "
540 INPUT N$
550 IF N$="Y" THEN 640
560 I$=U 35 THEN 610
570 INPUT DU,6:1
580 IF I$=1 THEN 640
590 INPUT DU,13:Z$
600 GO TO 570
+++++ 610 IF I$(0)=1 THEN 640
620 INPUT DU,13:Z$

```



```

++12++ 630 GO TO 610
++12++ 640 Z1="RMA1010"SH
++12++ 650 RFM
++12++ 660 REM ***** BEGIN DATA INPUT *****
++12++ 670 PRINT
++12++ 680 V=0.
++12++ 690 FOR I=1 TO 7
++12++ 700 IF I=6 AND V=0 THEN 830
++12++ 710 C=SEG(X)(I,1),C(I,2)
++12++ 720 C=SEG(Z)(I,1),B(I,2)
++12++ 730 PRINT "ENTER 'ID#', 'IC"
++12++ 740 INPUT V
++12++ 750 IF V=0 THEN 780
++12++ 760 IF I=5 THEN 830
++12++ 770 V=0.
++12++ 780 Z1=LEN(V)
++12++ 790 IF Z1=1 THEN 1650
++12++ 800 GO TO 8(I,3) OF 910,970,1070,1090,1150
++12++ 810 IF LEN(V)=1 THEN 1610
++12++ 820 Z1=LEN(V)-1,B(I,2)
++12++ 825 IF I=7 THEN 827
++12++ 826 GO TO 830
++12++ 827 PAGE
++12++ 830 NEXT I
++12++ 840 M=SEG(Z)(2,2)
++12++ 850 IF M=0 THEN 1220
++12++ 860 PRINT "THE FIG MUST BE EITHER DESTROYED OR RETURNED"
++12++ 870 PRINT "REENTER FROM THE BEGINNING"
++12++ 880 GO TO 640

890 RFM
900 REM ***** CHECK NO. 1 - CHECK ACTION *****
++11++ 910 IF V<>"X" AND V<>" " THEN 930
++11++ 920 GO TO 820
++11++ 930 PRINT "ACTION MUST BE X OR BLANK"
++11++ 940 PRINT "REENTER 'ID#', 'IC"
++11++ 950 GO TO 740

960 REM ***** CHECK NO. 2 - ACCEPTABLE SET TYPES *****
++11++ 970 IF Z1<>1 THEN 1610
++11++ 980 N=1
++11++ 990 FOR K=1 TO 17
++11++ 1000 S=SEG(F)(K,4)
++11++ 1010 IF V=S THEN 820
++11++ 1020 N=N+1
++11++ 1030 NEXT K
++11++ 1040 IF N=17 THEN 1610
++11++ 1050 GO TO 540

1060 REM ***** CHECK NO. 3 - NOT USED
++11++ 1070 GO TO 820

1080 REM ***** CHECK NO. 4 - LEFT ZERO FILL *****
++11++ 1090 IF Z1=1 THEN 820

```

1100 FOR N=Z1+1 TO B(I,2)
1110 V\$=O*10
1120 NEXT N
1130 GO TO B20

1140 REM ***** CHECK NO. 5 - FILL IN COMMENT WITH BLANKS *****

1150 IF Z1=43 THEN B20
1160 FOR N=Z1+1 TO 43
1170 V\$=V\$1*
1180 NEXT N
1190 GO TO B20

1200 REM

1210 REM ***** WRITE RECORD TO TAPE *****

1220 N=1
1230 Z1=LEN(C)
1240 IF Z1=20 THEN 1570
1250 PRINT C41:Z1
1260 PRINT C60:12:Z1
1270 IF N=11 THEN 1500
1280 PRINT "JIS THERE ANOTHER COMMENT? (ENTER Y OR N) "
1290 INPUT N
1300 IF N=O*Y THEN 1450

1310 REM

1320 REM ***** PROCESS ADDITIONAL COMMENTS *****

1330 A\$=SEG\$(C,N,2)
1340 Z\$=REP(A\$,O,2)
1350 Z\$=REP(O\$,26,45)
1360 PRINT "ENTER COMMENT (43 CHARACTERS OR LESS) "
1370 INPUT C\$

1380 Z1=LEN(C\$)
1390 IF Z1=43 THEN 1420
1400 PRINT "THIS COMMENT IS TOO LONG"
1410 GO TO 1360
1420 Z\$=REP(C\$,28,Z1)

1430 N=N+2

1440 GO TO 1230

1450 A\$=O*10

1460 Z\$=REP(A\$,O,2)

1470 Z\$=REP(O\$,26,45)

1480 REM

1490 REM ***** CHECK END OF DATA *****

1500 PRINT "MORE DATA? (ENTER Y OR N; N WILL END PROGRAM) "

1510 IF N THEN 1210

1520 IF N THEN 1570

1530 PRINT "PROGRAM FINISHED"

1540 REM

1550 REM ***** DIAGNOSTIC MESSAGES *****

1560 PRINT "ERROR IN LENGTH OF Z\$"

1570 PRINT "THE LAST ENTRY WAS DISREGARDED. REENTER ENTIRE RECORD"

1580 GO TO 500

```

1600 REM
++2++ 1610 PRINT "THE STRING MUST BE COMPLETELY FILLED - EXACTLY 'B(I,2)'"
1620 PRINT " CHARACTERS."
1630 GO TO 940

1640 REM
++1++ 1650 IF I=7 THEN 1680
1660 PRINT "B(I,2) CANNOT BE LONGER THAN 'B(I,2)' CHARACTERS."
1670 GO TO 940
++1++ 1680 PRINT "THIS COMMENT IS TOO LONG."
1690 GO TO 940

1700 REM
1710 REM ***** B ARRAY (7,5) *****
1720 DATA 8,2,4,0,0,12,6,0,0,0,18,4,2,0,0
1730 DATA 22,4,4,0,0,26,1,1,0,0,27,1,1,0,0,28,43,5,0,0
1740 REM
1750 REM ***** C ARRAY (7,2) *****
1760 DATA 1,11,13,38,51,8,60,16,71,32,103,31,134,31
1770 REM
1780 REM ***** J* ARRAY (10) AND F* ARRAY (48) *****
1790 DATA "02122324"

1800 REM
1810 DATA "K941K942K945K951K952K953K954K955"
1820 DATA "X302X545X546X547X548X549X550X551X552"
1830 REM
1840 REM ***** X* ARRAY (170) *****
1850 DATA "PAGE NUMBER/DATE OF THE SAMPLE COLLECTION (DDMMYY)"
1860 DATA "SET TYPE/SET NUMBER/ACTION - IF DESTROYED ENTER AN X"
1870 DATA "ACTION - IF RETURNED ENTER AN X"
1880 DATA "COMMENT (43 CHARACTERS OR LESS)"
1890 REM
1900 REM ***** END OF PROGRAM *****

```

FILE # 13

1 GO TO 100
4 GO TO 450
8 GO TO 1450

11111111 100 REM *** DATA SHEET # 11 - PROCESS DATA (DISASSEMBLY ROOM)
110 REM *** DATA ENTRY - LOAD INPUT DATA TO TAPE
120 REM *** VERSION 7 - 2/24/81
130 END

140 READ
150 INPUT
160 SET KEY
170 DIM B(5,2),C(5,2),F(6,8),J(110),N(1),X(110),Z(70)
180 GOTO 1

190 REM *** XXXXXXXXXXXX
200 PRINT "JIS THIS PROCESS DATA (DISASSEMBLY ROOM)? (ENTER Y OR N) "
210 INPUT N
220 IF N="Y" THEN 250
230 PRINT "JIS THIS PROCESS DATA (DISASSEMBLY ROOM)? (ENTER Y OR N) "
240 GOTO 1450

250 REM ***
260 READ B,C
270 READ F
280 F=F+1
290 GOTO 1
300 REM ***
310 READ X
320 X=X+1
330 GOTO 1

340 PRINT "JIS THIS DATA TAPE INTO UNIT 4924"
350 PRINT "JIS THE UNIT NUMBER YOU ARE USING FOR THE DATA TAPE "
360 INPUT U
370 PRINT "JIS THE FIRST 3 LETTERS OF THE DAY OF THE WEEK "
380 INPUT T
390 INPUT F
400 GOTO 1450

410 INPUT C(1,13:14)
420 INPUT C(2,13:14)
430 INPUT C(3,13:14)
440 INPUT C(4,13:14)
450 IF A="11" AND B="T" THEN 490
460 PRINT "JIS THIS IS THE WRONG DATA TAPE"
470 PRINT "JIS THIS TAPE IS FOR DATA SHEET #1461 FOR #11"
480 GOTO 1450

490 PRINT "JIS THIS DATA FOR A NEW WEEK? (ENTER Y OR N) "
500 INPUT N
510 IF N="Y" THEN 600
520 IF U=33 THEN 570
530 INPUT C(1,13:14)
540 INPUT C(2,13:14)
550 INPUT C(3,13:14)
560 INPUT C(4,13:14)
570 IF U=33 THEN 600
580 GOTO 1450

590 IF U=33 THEN 600
600 IF U=33 THEN 600
610 GOTO 1450

620 Z=Z+1
630 GOTO 1450

640 END

```

620 REM ***** BEGIN DATA INPUT *****
+++2+++ 630 PRINT
640 FOR I=1 TO 5
650 D=SEG(X),C(I,1),C(I,2))
660 C=SEG(Z),B(I,1),B(I,2))
670 PRINT "ENTER "D;" "C;"
+++1+++ 680 INPUT V
690 IF V=.. THEN 750
700 ZI=LEN(V)
710 IF ZI>B(I,2) THEN 1560
720 GO TO B(I,3) OF 790,860,980,1000,1060
730 IF LEN(V)<>B(I,2) THEN 1520
+++8+++ 740 Z=REF(V),B(I,1),B(I,2))
+++1+++ 750 NEXT I
760 GO TO 1130

770 REM
780 REM ***** CHECK NO. 1 - CHECK STATION NUMBER *****
+++1+++ 790 IF V="BF" THEN 740
800 IF ZI=B(I,2) THEN 820
810 V="0"
+++1+++ 820 IF VAL(V)<B(I,4) OR VAL(V)>B(I,5) THEN 840
830 GO TO 740
+++1+++ 840 PRINT "STATION NUMBER MUST BE 1, 2, 3, 4, 5 OR BF"
+++4+++ 850 PRINT "REENTER "D;" "C;"
860 GO TO 680

870 REM ***** CHECK NO. 2 - ACCEPTABLE SET TYPES *****
+++1+++ 880 IF ZI>B(I,2) THEN 1520
890 K4=1
900 FOR K=1 TO 17
910 S=SEG(F),K4,4)
920 IF V=S THEN 740
930 K4=K4+4
940 NEXT K
950 PRINT V;" IS NOT A VALID SET TYPE"
960 GO TO 850

970 REM ***** CHECK NO. 3 - NOT USED
+++1+++ 980 GO TO 740

990 REM ***** CHECK NO. 4 - LEFT ZERO FILL *****
+++1+++ 1000 IF ZI=B(I,2) THEN 740
1010 FOR N=ZI+1 TO B(I,2)
1020 V="0"
1030 NEXT N
1040 GO TO 740

1050 REM ***** CHECK NO. 5 - FILL IN COMMENT WITH BLANKS *****
+++1+++ 1060 IF ZI=47 THEN 740
1070 FOR N=ZI+1 TO 47
1080 V=" "
1090 NEXT N
1100 GO TO 740

```

```

1110 REM
1120 REM ***** WRITE RECORD TO TAPE *****
1130 N=1
1140 Z1=LEN(Z%)
1150 IF Z1>70 THEN 1480
1160 PRINT @41;Z%
1170 PRINT @41;Z%
1180 IF N=11 THEN 1410
1190 PRINT "JIS THERE ANOTHER COMMENT? (ENTER Y OR N) ";
1200 INPUT N%
1210 IF N<>"Y" THEN 1360

1220 REM
1230 REM ***** PROCESS ADDITIONAL COMMENTS *****
1240 A$=SEG(J$,N,2)
1250 Z1=LEN(A$)
1260 Z1=REF(G$,24,47)
1270 PRINT "ENTER COMMENT (47 CHARACTERS OR LESS)."
1280 INPUT C%
1290 Z1=LEN(C%)
1300 IF Z1>47 THEN 1330
1310 PRINT "THIS COMMENT IS TOO LONG."
1320 GO TO 1270
1330 Z1=REF(C$,24,21)
1340 N=N+1
1350 GO TO 1140
1360 N1=N-10
1370 Z1=REF(A$,6,2)
1380 Z1=REF(G$,24,47)

1390 REM
1400 REM ***** CHECK END OF DATA *****
1410 PRINT "MORE DATA? (ENTER Y OR N) N WILL END PROGRAM) ";
1420 INPUT N%
1430 IF N<>"N" THEN 630
1440 PRINT @41;Z%
1450 PRINT "PROGRAM FINISHED."
1460 END

1470 REM ***** DIAGNOSTIC MESSAGES *****
1480 PRINT "ERROR IN LENGTH OF Z%."
1490 PRINT "THE LAST ENTRY WAS DISREGARDED. REENTER ENTIRE RECORD."
1500 GO TO 600

1510 REM
1520 PRINT "THE STRING MUST BE COMPLETELY FILLED - EXACTLY 'B(1,2)';
1530 PRINT "CHARACTERS."
1540 GO TO 650
1550 REM

1560 IF 1-5 THEN 1590
1570 PRINT "B(1,2) CANNOT BE LONGER THAN 'B(1,2)'; CHARACTERS."
1580 GO TO 650

```

```

+++1+++ 1590 PRINT "JTHIS COMMENT IS TOO LONG"
1600 GO TO 850

1610 REM ***** B ARRAY (5,5) *****
1620 REM *****
1630 DATA 8,2,4,0,0,12,6,0,0,0,18,4,2,0,0
1640 DATA 22,2,1,1,5,24,47,5,0,0
1650 REM ***** C ARRAY (5,2) *****
1660 REM *****
1670 DATA 1,11,13,30,51,8,60,14,75,31
1680 REM *****
1690 REM ***** J% ARRAY (10) AND F% ARRAY (68) *****
1700 DATA "2021222324"
1710 REM *****

1720 DATA "K941K942K945K951K952K953K954K955"
1730 DATA "X302X545X546X547X548X549X550X551X552"
1740 REM *****
1750 REM ***** X% ARRAY (110) *****
1760 DATA "PAGE NUMBER/DATE OF THE SAMPLE COLLECTION (DDMMYY)"
1770 DATA "SET TYPE/STATION NUMBER/COMMENT (47 CHARACTERS OR LESS)"
1780 REM *****
1790 REM ***** END OF PROGRAM *****

```

FILE # 14

1 GO TO 100
4 GO TO 700
8 GO TO 1410

+++++ 100 REM **** DATA SHEET # 12 - PROCESS DATA (RESIDUE AREA - PIGS)
110 REM **** DATA ENTRY - LOAD INPUT DATA TO TAPE
120 REM **** VERSION 7 - 2/24/81
130 REM

140 PAGE
150 INIT
160 SET KEY
170 DIM B(5,5),C(5,3),F\$(68),K\$(1),X\$(90),Z\$(31)
180 H\$="XX" XXXXXXXXXXXXXXXXXXXX
190 PRINT "JIS THIS PROCESS DATA (RESIDUE AREA - PIGS)?"
200 PRINT "ENTER Y OR N"
210 INPUT N\$
220 IF N\$="Y" THEN 250
230 PRINT "YOU ARE USING THE WRONG DATA ENTRY PROGRAM"
240 GO TO 1410
250 READ B,C
260 READ F\$
270 READ Y\$
280 F4="F4Y\$"
290 DELETE Y\$
300 READ X\$
310 READ Y\$
320 Y1="X1Y\$"
330 DELETE Y\$
340 H="O"
350 J=0

+++++ 360 PRINT "JINSERT THE DATA TAPE INTO UNIT 4924"
370 PRINT "ENTER THE UNIT NUMBER YOU ARE USING FOR THE DATA TAPE"
380 INPUT U
390 PRINT "ENTER THE FIRST 3 LETTERS OF THE DAY OF THE WEEK"
400 INPUT T\$
410 I=SEG(T\$,1,3)
420 FIND G\$:
430 INPUT G\$:
440 G\$=SEG(G\$,1,3)
450 F4=SEG(F\$,1,3)
460 I=SEG(I\$,1,3)
470 IF I\$="12" AND F4="T" THEN 510
480 PRINT "THIS IS THE WRONG DATA TAPE"
490 PRINT "THIS TAPE IS FOR DATA SHEET #141" FOR "11"
500 GO TO 1400

+++++ 510 PRINT "JIS THIS DATA FOR A NEW WEEK? (ENTER Y OR N)"
520 INPUT N\$
530 IF N\$="Y" THEN 620
540 IF N\$="N" THEN 590
550 INPUT G\$:
560 IF I\$="12" THEN 620
570 INPUT G\$:
580 GO TO 550
590 IF IYP(O)=1 THEN 620
600 INPUT G\$:
610 GO TO 590
620 PRINT "JONE YOU ENTERING DATA FROM A NEW PAGE? (ENTER Y OR N)"

+++++ 630 PRINT "JONE YOU ENTERING DATA FROM A NEW PAGE? (ENTER Y OR N)"


```

630 INPUT N+
640 IF N+ = Y+ THEN 670
650 N = SEG(Z+,30,2)
660 N = VAL(N+)
670 Z+ = 'RMA1210'1H+
+++2+++

680 REM
690 REM ***** BEGIN DATA INPUT *****
700 PRINT
710 FOR I=1 TO 5
720 IF J=0 THEN 740
730 GO TO 1 OF 870,870,870,740,740
740 D+ = SEG(X+,C(I,1),C(I,2))
750 C+ = SEG(Z+,B(I,1),B(I,2))
760 PRINT "ENTER :D+ :C+"
770 INPUT V+
780 IF V+ = "END" THEN 810
790 J=0
800 GO TO 1270
810 IF V+ = " " THEN 870
820 Z1 = LEN(V+)
830 IF Z1 > C(I,2) THEN 1520
840 GO TO 1 OF 910,1020,1040
850 IF LEN(V+) < B(I,2) THEN 1480
860 Z1 = REP(V+,B(I,1),B(I,2))
870 NEXT I
880 GO TO 1110

890 REM
900 REM ***** CHECK NO. 1 - ACCEPTABLE SET TYPE *****
910 IF Z1 < B(I,2) THEN 1480
920 K4=1
930 FOR K=1 TO 17
940 S+ = SEG(F+,K4,4)
950 IF V+ = S+ THEN 860
960 K4 = K4 + 4
970 NEXT K
980 PRINT V+ : " IS NOT A VALID SET TYPE"
990 PRINT "JREENTER :D+ :C+"
1000 GO TO 770

1010 REM ***** CHECK NO. 2 - NOT USED
1020 GO TO 860

1030 REM ***** CHECK NO. 3 - LEFT ZERO FILL *****
1040 IF Z1 = B(I,2) THEN 860
1050 FOR N=21+1 TO B(I,2)
1060 V1 = "0"2V+
1070 NEXT N
1080 GO TO 860

1090 REM
1100 REM ***** TOTAL FIGS DECONED *****
1110 N=N+1
1120 V1 = STR(N)

```

```

1130 V$=REP("0",1,1)
1140 IF N<10 THEN 1160
1150 V$=SEG(V$,2,2)
1160 Z$=REP(V$,30,2)
+++1+++

1170 REM
1180 REM ***** WRITE RECORD TO TAPE *****
1190 Z1=LEN(Z$)
1200 IF Z1<31 THEN 1440
1210 PRINT @41:Z$
1220 PRINT @0:12:Z$
1230 J=1
1240 GO TO 700

1250 REM
1260 REM ***** CHECK END OF DATA *****
+++1+++
1270 PRINT "JANY MORE DATA FROM THIS SHEET? (ENTER Y OR N) "
1280 INPUT K$
1290 IF K$="Y" THEN 700
1300 PRINT "JENTER TOTAL PIGS DECONNED "
1310 INPUT N1
1320 IF N1=N THEN 1350
1330 PRINT "JTHIS TOTAL DOES NOT AGREE WITH THE CALCULATED TOTAL - "
1340 PRINT "PLEASE CHECK YOUR SHEET."
1350 PRINT "JMORE DATA? (ENTER Y OR N) N WILL END PROGRAM) "
1360 INPUT K$
1370 IF K$="N" THEN 1400
1380 N=0
1390 GO TO 700
1400 PRINT @0:21
1410 PRINT "PROGRAM FINISHED"
1420 END

1430 REM ***** DIAGNOSTIC MESSAGES *****
+++1+++
1440 PRINT "ERROR IN LENGTH OF Z$"
1450 PRINT "JTHE LAST ENTRY WAS DISREGARDED. REENTER ENTIRE RECORD"
1460 GO TO 670
1470 REM

+++2+++
1480 PRINT "THE STRING MUST BE COMPLETELY FILLED - EXACTLY "B(1,2)"
1490 PRINT "CHARACTERS."
1500 GO TO 990
1510 REM

+++1+++
1520 PRINT D$ " CANNOT BE LONGER THAN "B(1,2)" CHARACTERS."
1530 GO TO 990
1540 REM
1550 REM ***** D ARRAY (5,5) *****
1560 DATA 0,2,3,0,0,12,6,0,0,0,18,4,1,0,0
1570 DATA 22,4,3,0,0,26,4,3,0,0
1580 REM
1590 REM ***** C ARRAY (5,2) *****

```

1600 DATA 1,11,13,38,51,8,60,10,71,11
1610 REM
1620 REM ***** F# ARRAY (68) *****
1630 DATA "N941K942K945N951K952K953K954K955"
1640 DATA "X302X545X546X547X548X549X550X551X552"
1650 REM
1660 REM ***** X# ARRAY (90) *****
1670 DATA "PAGE NUMBER/DATE OF THE SAMPLE COLLECTION (DDMMYY)"
1680 DATA "SET TYPE/SET NUMBER/SKID NUMBER"
1690 REM
1700 REM ***** END OF PROGRAM *****

FILE # 15

```

1 GO TO 100
4 GO TO 250
8 GO TO 1290

+++++++ 100 REM *** DATA SHEET # 13 - PROCESS DATA (RESIDUE AREA - DRUMS)
110 REM *** DATA ENTRY - LOAD INPUT DATA TO TAPE
120 REM *** VERSION 7 - 2/24/81
130 REM

140 PAGE
150 INIT
160 SET KEY
170 DIM B(4,5),C(4,2),K$(1),X$(90),Z$(27)
180 H$="XX" XXXXXXXXXXXXX
190 PRINT "JIS THIS PROCESS DATA (RESIDUE AREA - DRUMS)?";
200 PRINT "ENTER Y OR N ";
210 INPUT N;
220 IF N="Y" THEN 250
230 PRINT "YOU ARE USING THE WRONG DATA ENTRY PROGRAM"
240 GO TO 1290

+++++++ 250 READ B,C
260 READ X;
270 READ Y;
280 X=X+X;
290 DELETE Y;
300 N=0
310 PRINT "INSERT THE DATA TAPE INTO UNIT 424";
320 PRINT "ENTER THE UNIT NUMBER YOU ARE USING FOR THE DATA TAPE ";
330 INPUT U
340 PRINT "ENTER THE FIRST 3 LETTERS OF THE DAY OF THE WEEK ";
350 INPUT T;
360 IF SEG(1,1,3)
370 END 60:4
380 INPUT C(13,2);
390 A=SEG(1,4,2)
400 E=SEG(1,8,3)
410 L=SEG(1,6,9)
420 IF A="13" AND B="T" THEN 460
430 PRINT "THIS IS THE WRONG DATA TAPE";
440 PRINT "THIS IS FOR DATA SHEET #14";, FOR "14
450 GO TO 1290
+++++++ 460 PRINT "JIS THIS DATA FOR A NEW WEEK? (ENTER Y OR N) ";
470 INPUT N;
480 IF N="Y" THEN 570
490 IF U=33 THEN 540
500 INPUT C(13,2)
510 IF 1=1 THEN 570
520 INPUT C(13,2);
530 GO TO 500
540 IF 1=1 THEN 570
550 INPUT C(13,2);
560 GO TO 540
+++++++ 570 PRINT "ARE YOU ENTERING DATA FROM A NEW PAGE? (ENTER Y OR N) ";
580 INPUT N;
590 IF N="Y" THEN 620
600 H=SEG(1,26,2)
610 H=H+H;
620 Z=H+Z;

```

```

630 REM
640 REM ***** BEGIN DATA INPUT *****
+++31+++
650 PRINT
660 FOR I=1 TO 4
670 U=SEG(X),C(I,1),C(I,2))
680 G=SEG(Z),B(I,1),B(I,2))
690 PRINT "ENTER 'ID';":IC
+++11+++
700 INPUT U;
710 IF U<2 THEN 770
720 Z1=LEN(U)
730 IF Z1>B(I,2) THEN 1400
740 GO TO R(I,3) OF 810,880,900,960
750 IF LEN(U)<>B(I,2) THEN 1360
760 Z=REP(U,B(I,1),B(I,2))
770 NEXT I
780 GO TO 1010

790 REM
800 REM ***** CHECK NO. 1 - ACCEPTABLE DRUM KEYS *****
+++11+++
810 IF Z1<>B(I,2) THEN 1360
820 G=SEG(U,1,1)
830 IF G<="F" THEN 760
840 PRINT "THE FIRST CHARACTER OF THE 'ID' MUST BE 'F'."
+++21+++
850 PRINT "REENTER 'ID';":IC
860 GO TO 700

870 REM ***** CHECK NO. 2 - NOT USED
+++11+++
880 GO TO 760

890 REM ***** CHECK NO. 3 - LEFT ZERO FILL *****
+++21+++
900 IF Z1=B(I,2) THEN 760
910 FOR K=Z1+1 TO B(I,2)
920 U="0"
930 NEXT K
940 GO TO 760

950 REM ***** CHECK NO. 4 - DRUM WEIGHT *****
+++11+++
960 IF U<>"NA" THEN 900
970 V="NA"
980 GO TO 760

990 REM
1000 REM ***** TOTAL DRUMS *****
+++11+++
1010 N=N+1
1020 V=STR(N)
1030 V=REP("0",1,1)
1040 IF N<10 THEN 1060
1050 V=SEG(V,2,2)
1060 Z=REP(V,26,2)
+++11+++
1070 REM
1080 REM ***** WRITE RECORD TO TAPE *****

```

```

1070 Z1=LEN(Z$)
1100 IF Z1<27 THEN 1320
1110 PRINT @41:Z$
1120 PRINT @0,12:Z$
1130 REM
1140 REM ***** CHECK END OF DATA *****
1150 PRINT "ANY MORE DATA FROM THIS SHEET? (ENTER Y OR N) "
1160 INPUT K$
1170 IF K$="Y" THEN 650
1180 PRINT "JENIER TOTAL DRUMS "
1190 INPUT N1
1200 IF N1=N THEN 1230
1210 PRINT "THIS TOTAL DOES NOT AGREE WITH THE CALCULATED TOTAL - "
1220 PRINT "PLEASE CHECK YOUR SHEET."
1230 PRINT "MORE DATA? (ENTER Y OR N) N WILL END PROGRAM "
1240 INPUT N$
1250 IF N$="N" THEN 1280
1260 N=0
1270 GO TO 650
1280 PRINT @0,2:
1290 PRINT "PROGRAM FINISHED"
1300 END

1310 REM ***** DIAGNOSTIC MESSAGES *****
1320 PRINT "ERROR IN LENGTH OF Z$"
1330 PRINT "THE LAST ENTRY WAS DISREGARDED. REENTER ENTIRE RECORD"
1340 GO TO 650
1350 REM
1360 PRINT "THE STRING MUST BE COMPLETELY FILLED - EXACTLY "B(I,2)" CHARACTERS"
1370 PRINT "CHARACTERS"
1380 GO TO 850
1390 REM
1400 PRINT @$:" CANNOT BE LONGER THAN "B(I,2)" CHARACTERS"
1410 GO TO 850
1420 REM
1430 REM ***** B ARRAY (4,5) *****
1440 DATA 8,2,3,0,0,12,6,0,0,0,18,5,1,0,0
1450 DATA 23,3,4,0,0
1460 REM
1470 REM ***** C ARRAY (4,2) *****
1480 DATA 1,11,13,36,51,11,63,11
1490 REM
1500 REM ***** X$ ARRAY (90) *****
1510 DATA "PAGE NUMBER/DATE OF THE SAMPLE COLLECTION (DIPNYY)"
1520 DATA "DRUM NUMBER/DRUM WEIGHT"
1530 REM

```

1540 KEN ***** END OF PROGRAM *****

FILE # 16

1 GO TO 100
4 GO TO 250
6 GO TO 1250

+++++ 100 REM *** DATA SHEET # 14 - PROCESS DATA (SPRAY DRYER)
110 REM *** DATA ENTRY - LOAD INPUT DATA TO TAPE
120 REM *** VERSION 7 - 2/24/81
130 REM

140 F005
150 INIT
160 SET KEY
170 DIM B(4,5),C(4,2),A\$(1),X\$(90),Z\$(27)
180 H\$="XX XXXXXXXXXXXX"
190 PRINT "JIS THIS PROCESS DATA (SPRAY DRYER)?"
200 PRINT "ENTER Y OR N"
210 INPUT N\$
220 IF N\$="Y" THEN 250
230 PRINT "YOU ARE USING THE WRONG DATA ENTRY PROGRAM"
240 GO TO 1250

+++++ 250 READ B,C
260 FOR A\$
270 FOR C\$
280 A\$=X\$+B\$
290 DELETE Y\$
300 B\$

310 PRINT "JINSERT THE DATA TAPE INTO UNIT 4Y24"
320 PRINT "ENTER THE UNIT NUMBER YOU ARE USING FOR THE DATA TAPE"
330 INPUT U
340 PRINT "ENTER THE FIRST 3 LETTERS OF THE DAY OF THE WEEK"
350 FOR I\$
360 I\$=C\$(I\$+1,3)
370 PRINT C\$(I\$)

380 FOR J\$
390 J\$=C\$(J\$+1,2)
400 B\$=B\$(J\$+1,2)
410 I\$=B\$+J\$+1
420 IF I\$="14" AND B\$="14" THEN 450
430 PRINT "THIS IS THE WRONG DATA TAPE"
440 PRINT "THIS TAPE IS FOR DATA SHEET #1444, FOR #116"
450 GO TO 1250

+++++ 460 PRINT "JIS THIS DATA FOR A NEW WEEK? (ENTER Y OR N)"
470 INPUT N\$

+++++ 480 IF N\$="Y" THEN 570
490 FOR J\$
500 J\$=C\$(J\$+1,2)
510 I\$=I\$+J\$+1
520 FOR I\$
530 I\$=C\$(I\$+1,2)

+++++ 540 IF I\$="14" THEN 570
550 PRINT "JIS THIS DATA FOR A NEW PAGE? (ENTER Y OR N)"
560 INPUT N\$

+++++ 570 IF N\$="Y" THEN 600
580 PRINT "JIS THIS DATA FOR A NEW PAGE? (ENTER Y OR N)"
590 INPUT N\$
600 IF N\$="Y" THEN 630
610 IF N\$="Y" THEN 630
620 IF N\$="Y" THEN 630

+++++ 630 IF N\$="Y" THEN 630
640 IF N\$="Y" THEN 630
650 IF N\$="Y" THEN 630


```

630 REM ***** BEGIN DATA INPUT *****
640 REM *****

++13+++ 650 PRINT
660 FOR I=1 TO 4
670   D=SEG(X$.C(I,1)),C(I,2)
680   C=SEG(Z$.B(I,1)),B(I,2)
690   PRINT "ENTER 'D', 'C'
700   INPUT V
710   IF V=.. THEN 770
720   ZI=LEN(V)
730   IF ZI>B(I,2) THEN 1400
740   GO TO B(I,3) OF 810,880,900,960
750   IF LEN(V)>B(I,2) THEN 1360
760   ZI=LEN(V)-B(I,1),B(I,2)
770   NEXT I
780   GO TO 1010

790 REM
800 REM ***** CHECK NO. 1 - ACCEPTABLE DRUM KEYS *****

++11+++ 810 IF ZI<B(I,2) THEN 1360
820   Q=SEG(V,1,1)
830   IF Q="S" THEN 760
840   PRINT "THE FIRST CHARACTER OF THE 'D', 'C' MUST BE S"
850   PRINT "GREEN, R 'D', 'C'
860   GO TO 700

870 REM ***** CHECK NO. 2 - NOT USED

++11+++ 880 GO TO 760

890 REM ***** CHECK NO. 3 - LEFT ZERO FILL *****

++12+++ 900 IF ZI-B(I,2) THEN 760
910   FOR N=ZI+1 TO B(I,2)
920     V$="0"
930     NEXT N
940   GO TO 760

950 REM ***** CHECK NO. 4 - DRUM WEIGHT *****

++11+++ 960 IF V$>"NA" THEN 900
970   V$="NA"
980   GO TO 760

990 REM
1000 REM ***** TOTAL DRUMS *****

++11+++ 1010 N=NA
1020   V$=STR(N)
1030   V1=LEN(V$,1,1)
1040   IF N=10 THEN 1060
1050   V$=SEG(V$,2,2)
1060   ZI=LEN(V$,2,2)

1070 REM
1080 REM ***** WRITE RECORD TO TAPE *****

```

```

1090 Z1=LEN(Z1)
1100 IF Z1=27 THEN 1320
1110 PRINT "Z1:Z1"
1120 PRINT "Z1:Z1"
1130 REM
1140 REM ***** CHECK END OF DATA *****
1150 PRINT "JUNK MORE DATA FROM THIS SHEET? (ENTER Y OR N) "
1160 INPUT N$
1170 IF N$="Y" THEN 650
1180 PRINT "JUNKER TOTAL DRUMS "
1190 INPUT N1
1200 IF N1=N THEN 1230
1210 PRINT "THIS TOTAL DOES NOT AGREE WITH THE CALCULATED TOTAL - IN
1220 PRINT "PLEASE CHECK YOUR SHEET"
1230 PRINT "JUNKER DATA? (ENTER Y OR N) N WILL END PROGRAM) "
1240 INPUT N$
1250 IF N$="N" THEN 1280
1260 N=0
1270 GO TO 650
1280 PRINT "Z1:Z1"
1290 PRINT "PROGRAM FINISHED"
1300 END

1310 REM ***** DIAGNOSTIC MESSAGES *****
1320 PRINT "ERROR IN LENGTH OF Z1"
1330 PRINT "THE LAST ENTRY WAS DISREGARDED. REENTER ENTIRE RECORD"
1340 GO TO 620
1350 REM
1360 PRINT "THE STRING MUST BE COMPLETELY FILLED - EXACTLY 27(B(I,2))
1370 PRINT "CHARACTERS"
1380 GO TO 850
1390 REM
1400 PRINT "Z1:Z1" COMPACT BE LONGER THAN 27(B(I,2)) CHARACTERS"
1410 GO TO 850
1420 REM
1430 REM ***** B ARRAY (4,5) *****
1440 DATA B(2,3,0,0,12,6,0,0,0,18,5,1,0,0
1450 DATA B(3,3,4,0,0
1460 REM
1470 REM ***** C ARRAY (4,2) *****
1480 DATA C(1,1,13,38,51,11,63,11
1490 REM
1500 REM ***** X5 ARRAY (90) *****
1510 DATA "PAGE NUMBER/DATE OF THE SAMPLE COLLECTION (DUMHHY)"
1520 DATA "DRUM NUMBER/DRUM WEIGHT"
1530 REM

```

1540 KEM ***** END OF PROGRAM *****

1 GO TO 100
4 GO TO 650
8 GO TO 1290

+++++ 100 REM *** DATA SHEET # 15 - PROCESS DATA (ELECTROSTATIC PRECIPITATOR)
110 REM *** DATA ENTRY - LOAD INPUT DATA TO TAPE
120 REM *** VERSION 7 - 2/24/81
130 REM

140 PAGE
150 INIT
160 SET KEY
170 DIM B(4,5),C(4,2),N\$(1),X\$(90),Z\$(27)
180 H1="XX XXXXXXXXXXXXXXXX"
190 PRINT "JIS THIS PROCESS DATA (ELECTROSTATIC PRECIPITATOR)?"
200 PRINT "ENTER Y OR N" ;
210 INPUT N1

220 IF N1="Y" THEN 250
230 PRINT "YOU ARE USING THE WRONG DATA ENTRY PROGRAM"
240 GO TO 1290

+++++ 250 READ B,C
260 READ X1
270 READ Y1
280 X1=X1Y1
290 DELETE Y1
300 N=0

310 PRINT "INSERT THE DATA TAPE INTO UNIT 4924"
320 PRINT "ENTER THE UNIT NUMBER YOU ARE USING FOR THE DATA TAPE"
330 INPUT U
340 PRINT "ENTER THE FIRST 3 LETTERS OF THE DAY OF THE WEEK"
350 INPUT T1

360 T1=SEG(T1,1,3)
370 FIND E016
380 INPUT E0131Z1
390 A1=SEG(Z1,4,2)
400 B1=SEG(Z1,6,3)
410 I1=SEG(Z1,8,9)

420 IF A1="15" AND B1="15" THEN 460
430 PRINT "THIS IS THE WRONG DATA TAPE"
440 PRINT "THIS TAPE IS FOR DATA SHEET #15151", FOR "JIS"
450 GO TO 1290

+++++ 460 PRINT "JIS THIS DATA FOR A NEW WEEK? (ENTER Y OR N)";
470 INPUT N1

480 IF N1="Y" THEN 570
490 IF U=33 THEN 540

+++++ 500 INPUT E016
510 IF T1=1 THEN 570
520 INPUT E0131Z1

+++++ 530 GO TO 500
540 IF T1(1)=1 THEN 570
550 INPUT E0131Z1

+++++ 560 GO TO 540
570 PRINT "ARE YOU ENTERING DATA FROM A NEW PAGE? (ENTER Y OR N)";

580 INPUT N1
590 IF N1="Y" THEN 620

600 A1=SEG(Z1,26,2)
610 N=VAL(N1)
620 Z1="K00151018H"

+++++ 630

```

630 REM ***** BEGIN DATA INPUT *****
640 REM *****

+++3+++ 650 PRINT
660 FOR I=1 TO 4
670 D=SEG(X),C(I,1),C(I,2))
680 C=SEG(Z),B(I,1),B(I,2))
690 PRINT "ENTER ID#";IC#
+++1+++ 700 INPUT V#
710 IF V#="" THEN 770
720 ZI=LEN(V#)
730 IF ZI>B(I,2) THEN 1400
740 GO TO B(I,3) OF B10,880,900,960
750 IF LEN(V#)<>B(I,2) THEN 1360
+++5+++ 760 Z=REP(V#,B(I,1),B(I,2))
+++1+++ 770 NEXT I
780 GO TO 1010

790 REM ***** CHECK NO. 1 - ACCEPTABLE DRUM KEYS *****
800 REM *****
+++1+++ 810 IF ZI<>B(I,2) THEN 1360
820 Q=SEG(V#,1,1)
830 IF Q#="E" THEN 760
840 PRINT "THE FIRST CHARACTER OF THE ID# MUST BE E"
+++2+++ 850 PRINT "REENTER ID#";IC#
860 GO TO 700

+++1+++ 870 REM ***** CHECK NO. 2 - NOT USED
880 GO TO 760

890 REM ***** CHECK NO. 3 - LEFT ZERO FILL *****
900 IF ZI=B(I,2) THEN 760
910 FOR K=ZI+1 TO B(I,2)
920 V#="0"V#
930 NEXT K
940 GO TO 760

950 REM ***** CHECK NO. 4 - DRUM WEIGHT *****
+++1+++ 960 IF V#<>"NA" THEN 900
970 V#="NA"
980 GO TO 760

990 REM ***** TOTAL DRUMS *****
1000 REM *****
+++1+++ 1010 N=N+1
1020 V#="STR(N)
1030 V#="REP("0",1,1)
1040 IF N=10 THEN 1060
1050 V#="SEG(V#,2,2)
1060 Z=REP(V#,26,2)
+++1+++ 1070 Z#="
1080 REM ***** WRITE RECORD TO TAPE *****

```

```

1090 Z1=LEN(Z$)
1100 IF Z1>27 THEN 1320
1110 PRINT @41:Z$
1120 PRINT @0,12:Z$
1130 REM
1140 REM ***** CHECK END OF DATA *****
1150 PRINT "JANY MORE DATA FROM THIS SHEET? (ENTER Y OR N) "
1160 INPUT N$
1170 IF N$="Y" THEN 650
1180 PRINT "JENTER TOTAL DRUMS "
1190 INPUT N1
1200 IF N1=N THEN 1230
1210 PRINT "JTHIS TOTAL DOES NOT AGREE WITH THE CALCULATED TOTAL - "IN
1220 PRINT "PLEASE CHECK YOUR SHEET."
1230 PRINT "JACKE DATA? (ENTER Y OR N) N WILL END PROGRAM) "
1240 INPUT N$
1250 IF N$="N" THEN 1280
1260 N=0
1270 GO TO 650
1280 PRINT @0,21
1290 PRINT "PROGRAM FINISHED"
1300 END

1310 REM ***** DIAGNOSTIC MESSAGES *****
1320 PRINT "ERROR IN LENGTH OF Z$."
1330 PRINT "JTHE LAST ENTRY WAS DISREGARDED. REENTER ENTIRE RECORD."
1340 GO TO 620
1350 REM

1360 PRINT "THE STRING MUST BE COMPLETELY FILLED - EXACTLY "B(I,2)"
1370 PRINT " CHARACTERS."
1380 GO TO 850
1390 REM

1400 PRINT @41:" CANNOT BE LONGER THAN "B(I,2)" CHARACTERS."
1410 GO TO 650
1420 REM
1430 REM ***** B ARRAY (4,5) *****
1440 DATA 8,2,3,0,0,12,6,0,0,0,18,5,1,0,0
1450 DATA 23,3,4,0,0
1460 REM
1470 REM ***** C ARRAY (4,2) *****
1480 DATA 1,11,13,38,51,11,63,11
1490 REM
1500 REM ***** X$ ARRAY (90) *****
1510 DATA "PAGE NUMBER/DATE OF THE SAMPLE COLLECTION (DDMMYY)."
1520 DATA "DRUM NUMBER/DRUM WEIGHT"
1530 REM

```

1540 REM ***** END OF PROGRAM *****

FILE # 18

1 GO TO 100
4 GO TO 200
8 GO TO 1760

+++++ 100 FLM **** DATA SHEET # 16 - 10 SET PLANT DOWNTIME DATA ****
110 REM DATA ENTRY - LOAD INPUT DATA TO TAPE
120 REM VERSION 9 - 7/17/81

130 REM
140 REM BY: STEARNS-ROGER, INC.
150 REM **** H. E. MARTIN ****

160 PAGE
170 INIT
180 SET KEY
190 DIM R(12,5),C(12,2),J(2),N*(1),X*(250),Z*(101)
200 H="XX" XXXXXXXXXXXXXXXXXXXXXXXX
210 PRINT "JIS THIS IS SETS PLANT DOWNTIME DATA? (ENTER Y OR N)";

220 INPUT N;
230 IF N#="Y" THEN 260
240 PRINT "YOU ARE USING THE WRONG DATA ENTRY PROGRAM."
250 GO TO 1760

+++++ 260 READ B,C
270 READ X;
280 FOR I=1 TO 5
290 READ Y;
300 X=X*Y;
310 NEXT I
320 DELETE Y;
330 PRINT "JINSERT THE DATA TAPE INTO UNIT 4924";

340 PRINT "JENTER THE UNIT NUMBER YOU ARE USING FOR THE DATA TAPE";
350 INPUT U;
360 PRINT "JENTER THE FIRST 3 LETTERS OF THE DAY OF THE WEEK";
370 INPUT T;
380 L="SGC14,1,3)
390 FIND GUT;
400 INPUT G(13,2);
410 A=SEG(2,4,2)
420 B=SEG(2,4,6,3)
430 C=SEG(2,4,8,9)
440 IF A#="16" AND B#="1" THEN 400

450 PRINT "THIS IS THE WRONG DATA TAPE."
460 PRINT "THIS TAPE IS FOR DATA SHEET #161 FOR *IC*
470 GO TO 1760

+++++ 480 PRINT "JIS THIS DATA FOR A NEW WEEK? (ENTER Y OR N)";
490 INPUT N;
500 IF N#="Y" THEN 590
510 IF U=33 THEN 560

+++++ 520 INPUT G(13,2);
530 IF I=1 THEN 590
540 INPUT G(13,2);
550 GO TO 520

+++++ 560 IF (Y*5)=1 THEN 590
570 INPUT G(13,2);
580 GO TO 560
590 G="SGC14,1,3)"

600 REM
610 FLM ***** BEGIN DATA INPUT *****

```

+++1+++ 630 PRINT
630 FOR I=1 TO 12
640 D=SEG(X$,C(I,1),C(I,2))
650 C=SEG(Z$,B(I,1),B(I,2))
660 PRINT "ENTER ID#"; D; C
+++1+++ 670 INPUT V$
680 IF V$="" THEN 740
690 Z1=LEN(V$)
700 IF Z1>B(I,2) THEN 1870
710 GO TO U(I,3) OF 1010,1220,1250,1330,1380
+++2+++ 720 IF LEN(V$)>B(I,2) THEN 1830
+++5+++ 730 Z=REP(V$,B(I,1),B(I,2))
+++1+++ 740 NEXT I

```

```

750 REM
760 REM ***** SUBROUTINE - CALC DT IN HOURS AND 2 DEC PLACES ***

```

```

770 M=18
780 FOR I=1 TO 2
790 J=SEG(Z$,M,2)
800 K=SEG(Z$,M+2,2)
810 J(I)=VAL(J)
820 K=VAL(K)
830 J(I)=J(I)+K/60
840 M=M+4
850 NEXT I
860 N=J(2)-J(1))*100+0.5
870 K=INT(N)
880 R=SEG(K)
890 N=REP(" ",1,1)
900 K1=LEN(R)
910 GO TO K1 OF 940,950,960,970
920 F1=SEG(N,2,4)
930 I TO 970
+++1+++ 940 A="0.0"EN$
+++1+++ 950 K="0.0"EN$
+++1+++ 960 K1="0.0"EN$
+++2+++ 970 Z1=REP(N$,4,4)
980 GO TO 1560

```

```

990 REM
1000 REM ***** CHECK NO. 1 - LIMITS *****

```

```

+++2+++ 1010 IF Z1>B(I,2) THEN 1830
1020 FOR K=1 TO Z1
1030 E=SEG(V$,K,1)
1040 E1=ASC(E)
1050 IF E1>47 AND E1<58 THEN 1080
1060 PRINT "THIS ENTRY MUST BE NUMERIC"
1070 GO TO 1150
1080 NEXT K
1090 V=VAL(V$)
1100 IF I=5 THEN 1380
1110 IF V=K(I,4) AND V=K(I,5) THEN 730
1120 GO TO 1 OF 1180,1180,1180,1180,1180,1180,1180,1180,1180,1180,1180,1180
1130 GO TO 1-11 OF 1180
1140 IF V=99 THEN 720
1150 IF I=11 AND V=98 THEN 720
1160 PRINT "ID# IS AN INVALID NUMBER"

```

```

1170 GO TO 1190
1180 PRINT B(1,4) MUST BE IN THE RANGE OF 'B(1,4)' TO 'B(1,5)
1190 PRINT "JUNTER '1001' '1002' '1003'
1200 GO TO 1270

1210 REM ***** CHECK NO. 2 - DATE *****
1220 IF Z1=B(1,2) THEN 1030
1230 GO TO 1430

1240 REM ***** CHECK NO. 3 - LEFT ZERO FILL *****
1250 IF Z1=B(1,2) THEN 1290
1260 FOR K=Z1+1 TO B(1,2)
1270 IF Z1<0 THEN 1290
1280 NEXT K
1290 IF 1<Z1 THEN 730
1300 GO TO 1010

1310 REM
1320 REM ***** CHECK NO. 4 - CHECK Y OR N *****
1330 IF V=Z1 OR V=Z1+N THEN 730
1340 PRINT B(1,4) MUST BE EITHER Y OR N
1350 GO TO 1190

1360 REM
1370 REM ***** CHECK NO. 5 - CHECK TIMES *****
1380 IF V=B(1,4) OR V=B(1,5) THEN 1180
1390 FOR K=Z1+1 TO B(1,4)
1400 NEXT K
1410 IF V=Z1 THEN 730
1420 PRINT "STOP TIME MUST BE LATER THAN START TIME. REENTER RECORD"
1430 GO TO 620

1440 REM
1450 REM ***** CHECK FOR BLANK DATA SHEET *****
1460 PRINT "JIS THREE DOWNTIME DATA TO BE ENTERED? (ENTER Y OR N) "
1470 INPUT B
1480 IF B<0 THEN 730
1490 Z1=K+1
1500 Z1=K+1
1510 Z1=K+1
1520 Z1=K+1
1530 GO TO 1660

1540 REM
1550 REM ***** ENTER COMMENT *****
1560 PRINT "ENTER COMMENT (57 CHARACTERS OR LESS)"
1570 INPUT V
1580 IF V<0 THEN 1660
1590 Z1=K+1
1600 IF Z1=57 THEN 1630
1610 PRINT "JIS COMMENT IS TOO LONG"
1620 GO TO 1630
1630 Z1=K+1

```

```

1640 REM
1650 REM ***** WRITE RECORD TO TAPE *****
++2+++
1660 PRINT G41:Z$
1670 PRINT G0,12,14
1680 Z$=REP('1',6,1)
1690 Z$=SEG(Z$,1,44)
1700 REM
1710 REM ***** CHECK END OF DATA *****
1720 PRINT 'JMOKE DATA? (ENTER Y OR N; N WILL END PROGRAM) '
1730 INPUT N$
1740 IF N$='Y' THEN 620
++1+++
1750 PRINT G0,21
++2+++
1760 PRINT 'PROGRAM FINISHED'
1770 END
1780 REM ***** DIAGNOSTIC MESSAGES *****
1790 PRINT 'ERROR IN LENGTH OF Z$'
1800 PRINT 'THE LAST ENTRY WAS DISREGARDED. REENTER ENTIRE RECORD'
1810 GO TO 620
1820 REM
++3+++
1830 PRINT 'THE STRING MUST BE COMPLETELY FILLED - EXACTLY 'B(1,2)'  

1840 PRINT ' CHARACTERS'
1850 GO TO 1190
1860 REM
++1+++
1870 PRINT B$; ' CANNOT BE LONGER THAN 'B(1,2)'  

1880 GO TO 1190
1890 REM
1900 REM ***** B ARRAY (12,5) *****
1910 DATA 8,2,3,0,0,12,6,2,0,0,18,4,1,0,2400
1920 DATA 22,4,1,0,2400,26,1,4,0,0,27,2,3,1,25,29,2,3,0,99
1930 DATA 31,2,3,0,99,33,2,3,0,39,35,2,3,1,36,37,2,3,1,14
1940 DATA 39,2,3,1,6
1950 REM
1960 REM ***** C ARRAY (12,2) *****
1970 DATA 1,11,13,38,51,10,62,9,72,21,93,16,110,24,134,26,174,18
1980 DATA 193,12,206,17,223,20
1990 REM
2000 REM ***** X$ ARRAY (250) *****
2010 DATA 'PAGE NUMBER/DATE OF THE SAMPLE COLLECTION (DDHHYY)'
2020 DATA 'START TIME/STOP TIME/SIMULTANEOUS (Y OR N)'
2030 DATA 'SENSITIVITY NUMBER/PRIMARY COMPONENT NUMBER'
2040 DATA 'SECONDARY COMPONENT NUMBER'
2050 DATA 'DESCRIPTIVE ACTION/FAILURE MODE/CORRECTIVE ACTION'
2060 DATA 'EFFECT ON PRODUCTION'
2070 REM

```

2000 KFM ***** END OF PROGRAM *****

FILE 1

```

100 INIT
110 PAGE
120 PRINT "DIRECTORY FOR ID SETS DATA PRINT PROGRAMS"
130 PRINT "VERSION 9 - 8/28/81"
140 PRINT
150 PRINT "DATA"
160 PRINT "SHEET"
170 PRINT "CONTENTS"
180 PRINT "-----"
190 PRINT "1 ANALYST AND LAB COORD WORK SHEET (MCK,CH,PS,T)"
200 PRINT "2 ANALYST AND LAB COORD WORK SHEET (AS)"
210 PRINT "3 ANALYST AND LAB COORD WORK SHEET (GR)"
220 PRINT "4 ANALYST AND LAB COORD WORK SHEET (L)"
230 PRINT "9 ANALYTICAL DATA SHEET (MIRAN 80)"
240 PRINT "10 BLUG 1811 - RECEIPT INSPECTION"
250 PRINT "11 PROCESS DATA - F1ASSEMBLY ROOM"
260 PRINT "12 PROCESS DATA - RESIDUE AREA (FIRS)"
270 PRINT "13 PROCESS DATA - RESIDUE AREA (MIRMS)"
280 PRINT "14 PROCESS DATA - SPRAY DRYER"
290 PRINT "15 PROCESS DATA - ELECTROSTATIC PRECIPITATOR"
300 PRINT "16 FIGHT DOWNTIME DATA"
310 INPUT F "ENTER DATA SHEET NUMBER"
320 IF F < 1 THEN 350
330 F = 1
340 GO TO 370
350 IF F < 9 OR F > 16 THEN 390
360 F = 1 - 6
370 FIND F
380 OUT
390 PRINT "INVALID FILE NUMBER, REENTER"
400 GO TO 300
410 END

```

FILE 0 2

PRINT PROGRAM FOR DATA SHEETS 1 THRU 8
ANALYST AND LAB COORDINATOR DATA
FOR H, CK, CM, PS, AS, GB AND L
VERSION 9 - 9/22/81

M. E. MARTIN

100 REM *****

110 REM

120 REM

130 REM

140 REM

150 REM *****

160 INIT

170 PRINT @32,7610

180 PRINT @41,15,150

190 PRINT "LINSEKI THE DATA TAPE INTO UNIT 4924"

200 PRINT "JFRESS ENTER KEY TO BEGIN"

210 INPUT B

220 DIM A(16),A\$(256),I\$(116),L\$(132),O\$(74)

230 REM

240 REM ***** INITIALIZE ARRAYS FOR CHECKING AGENTS

250 U1=11

260 U2=41

270 O1=

280 O1=O1\$108

290 Z1=

300 Y1=

310 READ I1

320 A(1)=1

330 A(2)=2

340 FOR I=3 TO 14

350 A(I)=0

360 NEXT I

370 J0=0

380 FIND WU1:0

390 FIND WU1:1

400 INPUT WU1:08

410 INPUT WU1:0120

420 REM ***** CHECK TO SEE IF READ FOR X AGENT IS NECESSARY

430 REM

440 INPUT WU1:08

450 I1=SEG(A1,18,2)

460 FOR I=1 TO 7

470 N1=SEG(I1,281-1,2)

480 IF N1=0 THEN 520

490 NEXT I

500 PRINT "THIS IS THE WRONG DATA TAPE"

510 GO TO 740

520 INPUT WU1:0120

530 IF 70=0 THEN 440

540 J0=J0+1

550 IF 20 14 THEN 740

560 IF A(J0)=0 THEN 540

570 J2=

580 FIND WU1:0

590 FIND WU1:1

600 INPUT WU1:08

610 INPUT WU1:08

++1++

++1++

++1G++

++2++

```

+++16+++ 620 D1=SEG(A1,18,2)
        630 C1=SEG(A1,6,1)
        640 INPUT Q1,61Z0
        650 D0=1
        660 IF D0<((J0+1)/2 THEN 700
        670 IF D0=J0/2 THEN 700
        680 IF Z0=2 THEN 610
        690 GO TO 540
+++12+++ 700 GO TO J0 OF 760,1440
+++2+++ 710 INPUT Q1,61Z0
        720 IF Z0=2 THEN 740
        730 GO TO 610
+++13+++ 740 PRINT "END OF PROGRAM"
        750 END

760 REM
770 KLM ***** ANALYST WORK SHEET *****

+++1+++ 780 IF J2=0 THEN 800
        790 GO TO 970
+++6+++ 800 L1=ANALYST WORK SHEET
        810 PRINT Q1,1
        820 E1=AGENT*100
        830 PRINT Q1,1
        840 G1=SEG(A1,10,2)
        850 H1=SEG(A1,12,2)
        860 I1=SEG(A1,14,2)
        870 J1=SEG(A1,16,2)
        880 K1=SEG(A1,20,1)
        890 E1=DAY HO YR
        900 PRINT Q1,E1
        910 PRINT Q1,1
        920 E1=CONTROL CALIB
        930 PRINT Q1,E1*CONC
        940 E1=NUMBER STD CONC HEIGHT CONC DILUTION VOLUME
        950 PRINT Q1,E1*SAMPLE TIME INIT COMMENTSJ
        960 J2=1
+++1+++ 970 E1=SEG(A1,10,2)
        980 IF L1<G1 THEN 800
        990 L1=SEG(A1,12,2)
        1000 IF E1<H1 THEN 800
        1010 L1=SEG(A1,14,2)
        1020 IF E1<I1 THEN 800
        1030 E1=SEG(A1,16,2)
        1040 IF E1<J1 THEN 800
        1050 E1=SEG(A1,20,1)
        1060 IF E1<K1 THEN 800
        1070 L1=01
        1080 H1=SEG(A1,21,6)
        1090 L1=REF(H1,1,6)
        1100 H1=SEG(A1,27,7)
        1110 IF H1<NA THEN 1130
        1120 H1=NA
        1130 L1=REF(H1,9,7)
        1140 H1=SEG(A1,30,7)
        1150 L1=REF(H1,18,7)
        1160 H1=SEG(A1,35,7)
        1170 IF H1<NA THEN 1190
        1180 H1=NA
        1190 L1=REF(H1,27,7)

```

```

000000***** LAB DATA COORDINATOR SHEET *****000000
1200 M=SEG(A$,62,7)
1210 IF M<>'NA' THEN 1230
1220 M=.
++11+++
1230 L=REP(M$,35,7)
1240 M=SEG(A$,69,7)
1250 IF M<>'NA' THEN 1270
1260 M=.
++11+++
1270 L=REP(M$,44,7)
1280 M=SEG(A$,76,7)
1290 IF M<>'NA' THEN 1310
1300 M=.
++11+++
1310 L=REP(M$,53,7)
1320 M=SEG(A$,83,4)
1330 IF M<>'NA' THEN 1350
1340 M=.
++11+++
1350 L=REP(M$,62,4)
1360 M=SEG(A$,87,3)
1370 L=REP(M$,69,3)
1380 M=.
1390 IF Z0=2 THEN 2410
1400 PRINT P41:L$;US
1410 GO TO 680

1420 REM
1430 REM ***** LAB DATA COORDINATOR SHEET *****
1440 IF J2=0 THEN 1460
1450 GO TO 1660
1460 E$='LAB DATA COORDINATOR WORK SHEET'
1470 PRINT P41:L
1480 PRINT P41:
1490 PRINT P41:
1500 G=SEG(A$,10,2)
1510 M=SEG(A$,12,2)
1520 I=SEG(A$,14,2)
1530 J=SEG(A$,16,2)
1540 K=SEG(A$,18,2)
1550 E$='DAY NO YR'
1560 F$=
1570 PRINT P41:E$;
1580 E$.
1590 PRINT P41:
1600 PRINT P41: USING '71Y,13A:':-REALYBIS--
1610 E$=-CONTROL
1620 PRINT P41:E$;CONC
1630 E$=NUMBER AGT LOC PURP STRT STOP CONC
1640 PRINT P41:E$;MEAS AIR MEAS AIR
1650 J2=1
1660 E$=SEG(A$,10,2)
1670 IF E$<'G$' THEN 1460
1680 E$=SEG(A$,12,2)
1690 IF E$<'H$' THEN 1460
1700 E$=SEG(A$,14,2)
1710 IF E$<'I$' THEN 1460
1720 E$=SEG(A$,16,2)
1730 IF E$<'J$' THEN 1460
1740 E$=SEG(A$,18,4)
1750 IF E$<'K$' THEN 1460
1760 IF C$='2' THEN 680
1770 IF C$='3' THEN 2120

```



```

1780 L1=0.1.
1790 M1=SEG(A1,21.6)
1800 L1=REP(M1,1.6)
1810 M1=SEG(A1,18.2)
1820 L1=REP(M1,9.2)
1830 M1=SEG(A1,116.2)
1840 L1=REP(M1,13.2)
1850 M1=SEG(A1,118.2)
1860 L1=REP(M1,18.2)
1870 M1=SEG(A1,120.4)
1880 L1=REP(M1,22.4)
1890 M1=SEG(A1,124.4)
1900 L1=REP(M1,27.4)
1910 M1=SEG(A1,90.7)
1920 IF M1<NA THEN 1940
1930 M1=NA
1940 L1=REP(M1,32.7)
1950 M1=SEG(A1,97.6)
1960 IF M1<NA THEN 1980
1970 M1=NA
1980 L1=REP(M1,41.6)
1990 M1=SEG(A1,76.7)
2000 IF M1<NA THEN 2020
2010 M1=NA
2020 L1=REP(M1,49.7)
2030 M1=SEG(A1,101.9)
2040 IF M1<NA THEN 2060
2050 M1=NA
2060 L1=REP(M1,58.9)
2070 L1=REP(
      .67,17)
2080 REM
2090 GO TO 2800

2100 REM
2110 REM ***** REANALYSIS DATA *****
2120 L1=0.1.
2130 M1=SEG(A1,21.6)
2140 L1=REP(M1,1.6)
2150 M1=SEG(A1,18.2)
2160 L1=REP(M1,9.2)
2170 M1=SEG(A1,116.2)
2180 L1=REP(M1,13.2)
2190 M1=SEG(A1,118.2)
2200 L1=REP(M1,18.2)
2210 M1=SEG(A1,120.4)
2220 L1=REP(M1,22.4)
2230 M1=SEG(A1,124.4)
2240 L1=REP(M1,27.4)
2250 M1=SEG(A1,90.7)
2260 IF M1<NA THEN 2280
2270 M1=NA
2280 L1=REP(M1,32.7)
2290 L1=REP(
      .49,18)
2300 M1=SEG(A1,76.7)
2310 IF M1<NA THEN 2330
2320 M1=NA
2330 L1=REP(M1,69.7)

```

```

2340 H$=SEG(A$,103,9)
2350 IF H$<"NA" THEN 2370
2360 H$="NA"
2370 L$=REP(H$,77,9)
2380 GO TO 2800

```

```

2390 REM
2400 REM ***** ANALYST COMMENTS *****

```

```

2410 Z6=0
2420 IF Z6<2 THEN 2470
2430 INPUT @U1:A$
2440 Z6=1
2450 INPUT @U1:G1Z0

```

```

2460 REM IF Z6<2 THEN 150

```

```

2470 B$=SEG(A$,6,2)
2480 O9=VAL(B$)
2490 IF O9<20 OR O9>29 THEN 2530
2500 IF O9<24 THEN 2560
2510 U$=SEG(A$,34,58)
2520 GO TO 2650

```

```

2530 PRINT @A1:L$
2540 IF Z6<2 AND Z6<1 THEN 540
2550 GO TO 620
2560 PRINT @A1:L$
2570 IF Z6<2 THEN 540

```

```

2580 INPUT @U1:A$
2590 INPUT @U1:G1Z0
2600 B$=SEG(A$,6,2)
2610 O9=VAL(B$)
2620 IF O9<20 OR O9>29 THEN 620
2630 GO TO 2570

```

```

2640 REM
2650 PRINT @A1:L$;U$
2660 IF Z6<2 THEN 540
2670 INPUT @U1:A$
2680 INPUT @U1:G1Z0
2690 B$=SEG(A$,6,2)
2700 O9=VAL(B$)
2710 IF O9<20 THEN 620
2720 IF O9>29 THEN 620
2730 IF O9<24 THEN 2660
2740 U$=SEG(A$,34,58)
2750 PRINT @A1: USING "751.58A":U$
2760 IF Z6<2 THEN 540
2770 GO TO 2660

```

```

2780 REM
2790 REM ***** LAB DATA COORDINATOR COMMENTS *****

```

```

2800 Z6=0
2810 IF Z6<2 THEN 2860
2820 INPUT @U1:A$
2830 Z6=1
2840 INPUT @U1:G1Z0

```

2850 REM IF Z0<>2 THEN 150

+++1+++

2860 B\$=SEG(A\$,6,2)
2870 Q9=VAL(B\$)
2880 IF Q9<20 OR Q9>29 THEN 2940
2890 IF Q9<25 AND Z0<>2 THEN 2940
2900 IF Z0<>2 AND Z6<>1 THEN 540
2910 IF Q9<25 THEN 2000
2920 H\$=SEG(A\$,34,45)
2930 GO TO 2980
2940 PRINT Q41L\$
2950 IF Z0<>2 AND Z6<>1 THEN 540
2960 GO TO 620

+++2+++

2970 REM

+++1+++ 2980 PRINT Q41L\$IM\$

+++2+++ 2990 IF Z0<>2 THEN 540

3000 INPUT Q41L\$

3010 INPUT Q41:6:20

3020 B\$=SEG(A\$,6,2)

3030 Q9=VAL(B\$)

3040 IF Q9<20 OR Q9>29 THEN 620

3050 IF Q9<25 THEN 2990

3060 H\$=SEG(A\$,34,45)

3070 PRINT Q41: USING 'B7T.45A'IM\$

3080 IF Z0<>2 THEN 540

3090 GO TO 2990

3100 REM

3110 REM ***** I\$ (14) - AGENTS *****

3120 DATA 'H CKNPST L GBL *

3130 REM ***** END OF PROGRAM *****

```

10 REM MIRAN PRINT PROGRAM
20 REM Computer Sciences Corporation
30 REM Isaac William Traxler
40 REM 4 - 27 - 82

```

```

100 INIT
110 GOSUB 1000
120 HS=FL
130 FOR I=1 TO 6
140 S=SEG(Z$,I,1)
150 GOSUB 2000
160 NEXT I
170 HS=QL
180 FOR I=1 TO 6
190 S=SEG(Z$,I,1)
200 GOSUB 2000
210 NEXT I
220 PRINT Q4$;"LL"
230 PRINT Q3$;"*** NORMAL END OF PROGRAM ***"
240 END
+++
300 PRINT Q3$;"QMRGOGNUGG QDGAGTGG GTGAGPQEG"
310 PRINT Q3$;"*** ABNORMAL END OF PROGRAM ***"
320 END

```

999 REM ROUTINE TO INITIALIZE ARRAYS AND PROMPT USER FOR DATA TAPE

```

---1---
1000 PAGE
1010 U1=33
1020 U2=11
1030 U3=32
1040 U4=41
1050 PRINT Q4$
1060 DIM H$(2),S$(1),Z$(6)
1070 DIM I$(110),F$(111),B$(110)
1080 DIM L$(9,3)
1090 PRINT Q3$;"JINSERT DATA TAPE INTO EXTERNAL TAPE DRIVE"
1100 PRINT Q3$;"CR"
1110 Z$="123456"
1120 I$=""
1130 B$="1"
1140 FOR I=1 TO 10
1150 B$=B$+I$
1160 NEXT I
1170 FOR I=1 TO 9
1180 READ L(I,1),L(I,2),L(I,3)
1190 NEXT I
1200 RETURN
1300 DATA 37,7,20
1310 DATA 44,7,30
1320 DATA 54,7,49
1330 DATA 61,7,59
1340 DATA 71,7,78
1350 DATA 78,7,88
1360 DATA 51,3,41
1370 DATA 68,3,70

```

1580 DATA 85,3,99

1999 REM ROUTINE PRINT RECORD

```
---2---
2000 FIND Q0211
2010 INPUT Q0211$
2020 I$=SEG(I$,1,5)
2030 IF I$<>'RNA09' THEN 300
2040 C1=0
2050 P0=0
+++3+++
2100 INPUT Q02,61E1,E2
2110 IF E1<>2 THEN 2240
2120 INPUT Q0211$
2125 REM CHECK PURPOSE
2130 I$=SEG(I$,22,2)
2140 IF I$<>'H' THEN 2100
2145 REM CHECK SERIAL NUMBER
2150 I$=SEG(I$,24,1)
2160 IF I$<>'S' THEN 2100
2165 REM GET PAGE NUMBER
2170 I$=SEG(I$,8,2)
2180 P1=VAL(I$)
2190 IF P0<0 AND P0=P1 THEN 2220
2200 P0=P1
2210 GOSUB 3000
2220 GOSUB 4000
2230 GO TO 2100
2240 RETURN
+++1+++
2999 REM ROUTINE TO PRINT HEADING AT TOP OF EACH SHEET
```

```
---1---
3000 PRINT Q04:'L'
3010 PRINT Q04: USING '45X,21A,/' : 'ANALYTICAL DATA SHEET'
3020 PRINT Q04: USING '52X,8A' : 'MIRAN 80'
3030 I$=SEG(I$,20,2)
3040 PRINT Q04: USING 'L,51X,9A,2A' : 'LOCATION',I$
3043 I$='MIRAN SERIAL NO.'
3046 U$='SET TYPE'
3050 PRINT Q04: USING 'L,33X,16A,21A,8A' : 'DAY MO YR',I$,U$
3060 I$=SEG(I$,12,6)
3070 I$=REF(' ',3,0)
3080 U$=REF(' ',4,0)
3090 U1=REF(' ',25,4)
3100 U1=REF(' ',2,0)
3110 PRINT Q04: USING '34X,8A,15X,6A,14X,5A' : 'I$,S$,U$'
3120 PRINT Q04: USING 'L,L,53X,13A' : 'PARTS/MILLION'
3130 PRINT Q04: USING '2L,20T,24A,S' : '-----CHLOROPICRIN-----'
3135 PRINT Q04: USING '5X,24A,S' : '-----PHOSGENE-----'
3140 PRINT Q04: USING '5X,26A' : '-----CHLOROFORM-----'
3146 U1='SET TYPE'
```

```

3150 IF H<>'FL' THEN 3190
3160 PRINT QUA1 USING 3170: 'PUR', 'TIME'
3170 IMAGE 3A:5X,11A,3('1 HR AVG' PEAK INIT ' '),/
3180 GO TO 3210
+++1+++
3190 PRINT QUA1 USING 3200: 'PUR', 'TIME'
3200 IMAGE 3A:5X,11A,3(' TARGET' FOUND INIT ' '),/
3210 RETURN
+++1+++

```

3999 REM ROUTINE TO PRINT OUT DATA AND COMMENT RECORDS

```

---1---
4000 I$=SEG(I$,6,1)
4010 IF I$=1 THEN 4150

```

4020 REM COMMENT RECORD

```

4030 P$=B$
4040 I$=SEG(I$,29,8)
4050 T$=REP('...',5,0)
4060 P$=REP(I$,7,9)
4070 I$=SEG(I$,37,68)
4080 P$=REP(I$,22,68)
4090 IF C1=1 THEN 4110
4100 P$=REP('J',1,0)

```

```

+++1+++
4110 PRINT QUA1:P$
4120 C1=1
4130 RETURN

```

4140 REM DATA RECORD

```

+++1+++
4150 P$=B$
4160 I$=SEG(I$,22,2)
4170 P$=REP(I$,1,2)
4180 I$=SEG(I$,29,8)
4190 T$=REP('...',5,0)
4200 P$=REP(I$,7,9)
4210 FOR I=1 TO 9
4220 I$=SEG(I$,L(I,1),L(I,2))
4230 P$=REP(I$,L(I,3),L(I,2))

```

```

4240 NEXT I
4250 IF C1<>1 THEN 4280
4260 P$=REP('J',1,0)
4270 C1=0

```

```

+++1+++
4280 PRINT QUA1:P$
4290 RETURN

```

```

100 REM ****
110 REM PRINT PROGRAM FOR DATA SHEET #10 ****
120 REM BLDG 1611 RECEIPT INSPECTION DATA
130 REM VERSION B - 06/08/81
140 REM BY: STEAKINS-ROGER, INC.
150 REM M. R. HERBERT/M. E. MARTIN ****

160 INIT
170 PAGE
180 DIM H$(2),D$(2),M$(2),Y$(2),J$(2),K$(40),P$(80),R$(70),T$(2)
190 PRINT "PROGRAM TO PRINT"
200 PRINT "BLDG 1611 RECEIPT INSPECTION DATA"

210 REM "REMOVE PROGRAMMED TAPE FROM UNIT"

220 PRINT "INSERT DATA TAPE IN UNIT 4924"
230 PRINT "JDO YOU WANT TO USE THE HARD COPIER?"
240 PRINT "ENTER (Y OR N) "
250 INPUT A$
260 N=54
270 DIM A$(1)
280 IF A$<>"Y" THEN 310
290 M=34
300 PRINT "MAKE SURE UNIT IS ON AND IS AT OPERATING TEMPERATURE"
310 PRINT "ENTER UNIT NUMBER YOU ARE USING FOR THE DATA TAPE "
320 INPUT U
330 FIND @U:1
340 PAGE
350 P=0
360 E=0
370 N$=""
380 P$=""
390 R$=""
400 ON COF (0) THEN 1110
410 IF U=33 THEN 440
420 INPUT @U,6:11
430 IF T1=1 THEN 1110
440 INPUT @U,13:R$
450 IF U=33 THEN 480
460 INPUT @U,6:11
470 IF T1=1 THEN 1110
480 INPUT @U,13:R$
490 J$=SEG(R$,8:2)
500 T$=SEG(R$,4:2)
510 IF T$<>"10" THEN 1200
520 IF R$<>" " THEN 550
530 R$=J$
540 GO TO 560
550 IF J$=R$ THEN 570
560 COSUB @20
570 P$=K$R$

580 REM *** FORMAT DETAIL LINE AND PRINT ***
590 U$=SEG(R$,18:1)
600 P$=REP(U$,1:1)
610 U$=SEG(R$,19:3)

```

```

620 P1=REF(U1,3,3)
630 U1=SEG(R1,22,4)
640 P1=REF(U1,7,4)
650 I1=SEG(R1,6,1)
660 IF I1<>1 THEN 710
670 U1=SEG(R1,26,1)
680 P1=REF(U1,10,4)
690 U1=SEG(R1,27,1)
700 P1=REF(U1,29,1)
710 U1=SEG(R1,28,43)
720 P1=REF(U1,37,43)
730 IF L1<M THEN 770
740 IF A1<>Y THEN 760
750 GOSUB 1140
760 GOSUB 820
770 PRINT Q1:P1
780 IF A1<>Y THEN 800
790 PRINT Q2:P1
800 L=L+1
810 GO TO 450

```

---2--- 820 REM *** HEADING SUB-ROUTINE ***

```

830 Y1=SEG(R1,16,2)
840 M1=SEG(R1,14,2)
850 U1=SEG(R1,12,2)
860 IF R1=J1 THEN 890
870 P=0
880 U1=J1
890 P=P+1
900 A=41
910 PRINT Q1:L
920 GOSUB 980
930 IF A1<>Y THEN 1090
940 PAGE
950 A=A+2
960 GOSUB 980
970 GO TO 1090

```

---2--- 980 PRINT Q1: USING "16X,28A":"DLDG 1611 RECEIPT INSPECTION"

```

990 PRINT Q1:
1000 PRINT Q1: USING "52A,5A,2D":"DAY MO YR","PAGE",P
1010 PRINT Q1: USING "1X,3A,3A,36A,14A,2A,1D",M1,Y1,"COMPUTER PAGE",J1
1020 PRINT Q1: J1
1030 PRINT Q1: USING "2X,31A":"SERIAL"
1040 PRINT Q1: USING 1050:"NUMBER","DESTROYED" RETURNED COMMENTS
1050 IMAGE 2X,11A,31A
1060 PRINT Q1:
1070 L=Y
1080 RETURN
1090 RETURN
1100 REM *** SET EOF INDICATOR ***

```

---3--- 1110 E=1

1120 REM *** PRINT HARD COPY ***

1130 IF A\$<>'Y' THEN 1250

1140 PRINT @32,26:3

1150 MOVE 0,0

1160 PRINT

1170 PRINT @32,26:0

1180 IF E-1 THEN 1250

1190 RETURN

1200 REM *** ERROR - WRONG RECORD TYPE ***

1210 PRINT "RECORD TYPE: ",IT\$

1220 PRINT "DATA IS NOT **BLDG 1611 RECEIPT INSPECTION** DATA"

1230 PRINT "*** ABNORMAL PROGRAM END ***"

1240 GO TO 1260

1250 PRINT "J*** NORMAL END OF PROGRAM ***"

1260 END

FILE 05

```

100 REM *** PRINT PROGRAM FOR DATA SHEET #11
110 REM *** PROCESS DATA FROM DISASSEMBLY ROOM
120 REM *** VERSION 7 - 3/12/81

130 INIT
140 PAGE
150 DIM RS(2),DS(2),MS(2),YS(2),RS(70),PS(40),JS(2),KS(30)
160 PRINT "PROGRAM TO PRINT."
170 PRINT "PROCESS DATA SHEET - DISASSEMBLY ROOM"

180 REM "REMOVE PROGRAMMED TAPE FROM UNIT"

190 PRINT "INSERT DATA TAPE IN UNIT 4924"
200 PRINT "JDO YOU WANT TO USE THE HARD COPIER?"
210 PRINT "ENTER (Y OR N) "
220 INPUT A$
230 N=54
240 DIM AS(1)
250 IF A$="Y" THEN 280
260 N=34
270 PRINT "MAKE SURE UNIT IS ON AND IS AT OPERATING TEMPERATURE"
280 PRINT "ENTER UNIT NUMBER YOU ARE USING FOR THIS DATA TAPE "
290 INPUT U
300 FIND @U:2
310 PAGE
320 P=0
330 E=0
340 N$=""
350 N$=""
360 ON EOF (0) THEN 990
370 IF U=33 THEN 400
380 INPUT @U:11
390 IF 11=1 THEN 990
400 INPUT @U:13:K$
410 IF U=33 THEN 440
420 INPUT @U:11
430 IF 11=1 THEN 990
440 INPUT @U:13:K$
450 JS=SEG$(K$:8,2)
460 TS=SEG$(K$:4,2)
470 IF TS="11" THEN 1090
480 IF N$="" THEN 510
490 RS=JS
500 GO TO 530
510 IF JS=PS THEN 540
520 GOSUB 1010
530 GOSUB 470
540 IF 11=1 THEN 990
550 U$=SEG$(K$:22,2)
560 P$=K$(U$:4,2)
570 US=SEG$(P$:24,47)
580 P$=K$(U$:11,47)
590 IF L M THEN 620
600 GOSUB 1010
610 GOSUB 470
620 PRINT @U:11:K$
630 IF A$="Y" THEN 650

```

440 PRINT Q32:P
450 L=L+1
460 GO TO 410

+++++

---2--- 670 REM *** HEADING SUB-ROUTING ***

690 Y8=SEG(R4,14,2)
690 M8=SEG(R4,14,2)
700 R8=SEG(R4,12,2)
710 G8=SEG(R4,10,1)
720 M8=SEG(R4,19,3)
730 IF R8=J8 THEN 760
740 P=0

750 R8=J8
760 P=P+1
770 A=41

+++++

780 PRINT G8:L

790 GOSUB 850

800 IF A<0-Y THEN 980

810 PAGE

820 A=42

830 GOSUB 850

840 GO TO 980

---2--- 850 PRINT G8: USING "10X,40A,20,1"PROCESS DATA SHEET,*,PAGE*,P
860 PRINT G8: USING 870:"DISASSEMBLY ROOM",*,COMPUTER PAGE*,J8
870 IMAGE 11X,30A,14A,2A
880 PRINT G8:

890 PRINT G8: USING "3X,19A,11A,1"DAY MO YR,*,TYPE OF GET*

900 PRINT G8: USING 910:"DS,MS,Y8,G8,*,*,H8

910 IMAGE 47,2A,15A,15A,1A,1A,3A

920 PRINT G8:

930 PRINT G8:"STATION"

940 PRINT G8:" NUMBER EVENT/ACTION TAKEN"

950 PRINT G8:

960 L=9

970 RETURN

980 RETURN

+++++

---3--- 990 REM *** SET EOF INDICATOR ***

1000 E=1

---2--- 1010 REM *** PRINT HARD COPY ***

1020 IF R8=J8 THEN 1070

1030 PRINT Q32:P613

1040 GOSUB 900

1050 PRINT

1060 PRINT Q32:P610

1070 IF R8=J8 THEN 1140

1080 RETURN

++1111+ 1090 REM *** ERROR - WRONG TYPE RECORD ***

1100 PRINT "RECORD TYPE: "IT1

1110 PRINT "DATA IS NOT **PROCESS DATA SHEET-DISASSEMBLY ROOM** DATA"

1120 PRINT "*** ABNORMAL END OF PROGRAM ***"

1130 GO TO 1150

++1111+ 1140 PRINT "Jase NORMAL END OF PROGRAM ***"

++1111+ 1150 END

FILE 6 4

```

100 REM **** PRINT PROGRAM FOR DATA SHEET #12
110 REM **** PROCESS DATA FROM RESIDUE AREA (PIGS)
120 REM **** VERSION 7 - 3/12/81

130 GUNT
140 PAGE
150 DIM H$(2), D$(2), M$(2), Y$(2), P$(25), R$(31), J$(2), T$(2), K$(25)
160 PRINT "PROGRAM TO PRINT"
170 PRINT "PROCESS DATA SHEET - DECONNED PIG CONTROL"

180 REM "REMOVE PROGRAMMED TAPE FROM UNIT"

190 PRINT "INSERT DATA TAPE IN UNIT 4924"
200 PRINT "JUD YOU WANT TO USE THE HARD COPY?"
210 PRINT "ENTER (Y OR N) "
220 INPUT A$
230 M=54
240 DIM A$(1)
250 IF A$<>"Y" THEN 280
260 M=34
270 PRINT "JHANE SURE UNIT IS ON AND IS AT OPERATING TEMPERATURE"
280 PRINT "ENTER UNIT NUMBER YOU ARE USING FOR THE DATA TAPE "
290 INPUT U
300 FIND RUI3
310 P=0
320 E=0
330 K$=""
340 B$=""
350 ON EOF (0) THEN 1100
360 IF U=33 THEN 390
370 INPUT QU,6:11
380 IF 11=1 THEN 1100
390 INPUT QU,13:R$
400 IF U=33 THEN 430
410 INPUT QU,6:11
420 IF 11=1 THEN 1100
430 INPUT QU,13:R$
440 J$=SEG(R$,8,2)
450 I$=SEG(R$,4,2)
460 IF I$<>"12" THEN 1320
470 IF B$<>" " THEN 500
480 G$=J$
490 GO TO 520
500 IF J$=R$ THEN 530
510 GOSUB 1120
520 GOSUB 790

1111111 530 REM *** FORMAT DETAIL LINE AND PRINT ***
540 F1=R$
550 U1=SEG(R$,10,1)
560 F2=K$(U1,5,1)
570 U2=SEG(R$,19,3)
580 F3=F$(U2,7,3)
590 U3=SEG(R$,22,4)
600 F4=K$(U3,11,4)
610 U4=SEG(R$,26,4)

```

```

620 FOR I=1 TO 3
630 V4=SEG(U$,I,1)
640 IF V4<>"0" THEN 680
650 V4=""
660 U4=REP(U$,I,1)
670 NEXT I
680 F4=REF(U$,22,4)
690 X4=SEG(R$,30,2)
700 IF L4M THEN 740
710 IF A4<>"Y" THEN 730
720 GOSUB 1260
730 GOSUB 790
740 PRINT R41:P$
750 IF A4<>"Y" THEN 770
760 PRINT R32:P$
770 L=L+1
780 GO TO 400

```

---3--- 790 REM *** HEADING SUB-ROUTINE ***

```

800 Y4=SEG(R$,16,2)
810 H4=SEG(R$,14,2)
820 D4=SEG(R$,12,2)
830 IF R4=J$ THEN 860
840 F=0
850 F4=J$
860 F=F+1
870 A=41
880 PRINT R41:L*
890 GOSUB 950
900 IF A4<>"Y" THEN 1090
910 PAGE
920 A=32
930 GOSUB 950
940 GO TO 1090

```

---2--- 950 PRINT R4: USING 960: "PROCESS DATA SHEET", "PAGE", P
960 IMAGE 3X,10A,10X,5A,2D
970 PRINT R4: USING 980: "RESIDUE AREA", "COMPUTER PAGE", J\$
980 IMAGE 4X,12A,12X,14A,2A
990 PRINT R4:
1000 PRINT R4: USING "7X,9A,1": "DAY MO YR"
1010 PRINT R4: USING "8X,3(3A)": "D\$,H\$,Y\$"
1020 PRINT R4:
1030 PRINT R4: " DECONNED PIG CONTROL"
1040 PRINT R4:
1050 PRINT R4: " PIG CONTROL NUMBER SKID"
1060 PRINT R4:
1070 L=L+1
1080 RETURN
1090 RETURN

---3--- 1100 REM *** SET EOF INDICATOR ***
1110 E=1

---1--- 1120 REM *** PRINT LAST LINE OF DATA SHEET ***

1130 IF L<M THEN 1150

1140 GOSUB 790

1150 V1=SEG(X\$,1,1)

1160 IF V1<>0 THEN 1190

1170 V1=.

1180 X1=REF(V1,1,1)

1190 Z1="TOTAL PIGS DECONNECTED"

1200 PRINT Q411

1210 PRINT Q411;Z1X\$

1220 REM *** PRINT HARD COPY ***

1230 IF A<>Y THEN 1300

1240 PRINT

1250 PRINT Z1X\$

---1--- 1260 PRINT Q32,2613

1270 MOVE 0,0

1280 PRINT

1290 PRINT Q32,2610

1300 IF E=1 THEN 1390

1310 RETURN

+++1+++ 1320 REM *** ERROR -- WRONG RECORD TYPE ***

1330 PAGE

1340 PRINT "RECORD TYPE: "I1

1350 PRINT "DATA IS NOT --PROCESS DATA SHEET-DECONNECTED PIG CONTROL--"

1360 PRINT "*** ABNORMAL PROGRAM END ***"

1370 GO TO 1400

1380 PAGE

+++1+++ 1390 PRINT "*** NORMAL END OF PROGRAM ***"

+++1+++ 1400 END

FILE 7

```

100 REM *** PRINT PROGRAM FOR DATA SHEET #13
110 REM *** PROCESS DATA FROM RESIDUE AREA (DRUMS)
120 REM *** VERSION 7 - 2/12/81

130 INIT
140 PAGE
150 DIM B$(2),U$(2),J$(2),K$(36),M$(2),P$(36),R$(27),T$(2),X$(2)
160 PRINT "PROGRAM TO PRINT"
170 PRINT "PROCESS DATA SHEET - FURNACE RESIDUE CONTROL"
180 REM "JREMOVE PROGRAMMED TAPE FROM UNIT"

190 PRINT "INSERT DATA TAPE IN UNIT 4924"
200 PRINT "JDO YOU WANT TO USE THE HARD COPIER?"
210 PRINT "ENTER (Y OR N)"
220 INPUT A$
230 DIM A$(1)
240 IF A$ <> "Y" THEN 260
250 PRINT "JMAKE SURE UNIT IS ON AND IS AT OPERATING TEMPERATURE"
260 PRINT "JENTER UNIT NUMBER YOU ARE USING FOR THE DATA TAPE"
270 INPUT U
280 FIND QU:4
290 PAGE
300 E=0
310 B1=0
320 N1=0
330 E1=0
340 F1=0
350 O1=0
360 U1=0
370 L1=0
380 L1=0
390 N1=0
400 O1=0
410 ON EOF (0) THEN 1050
420 IF U=33 THEN 450
430 INPUT QU:6:11
440 IF 11=1 THEN 1050
450 INPUT QU:13:R1
460 IF U=33 THEN 490
470 INPUT QU:6:11
480 IF 11=1 THEN 1050
490 INPUT QU:13:R1
500 J1=SEG(R1,8,2)
510 T1=SFG(R1,4,2)
520 IF 11=13 THEN 1220
530 IF R1=J1 THEN 560
540 R1=J1
550 GO TO 560
560 IF J1=R1 THEN 590
570 COSUB 1060
580 GO SUB 770
590 F1=F1+1
600 U1=SEG(R1,18,1)
610 T1=FF(U1,4,1)
620 U1=SEG(R1,19,4)
630 F1=REP(U1,6,4)

```



```

640 U$=SEG(R$,23,3)
650 FOR I=1 TO 2
660 V$=SEG(U$,I,1)
670 IF V$<>"0" THEN 710
680 V$=""
690 U$=REP(V$,I,1)
700 NEXT I
710 P$=REP(U$,10,3)
720 X$=SEG(R$,26,2)
730 PRINT Q11:P$
740 IF A$<>"Y" THEN 460
750 PRINT Q32:P$
760 GO TO 460

```

+++1+++

---1--- 770 REM *** HEADING SUB-ROUTINE ***

```

780 Y$=SEG(R$,16,2)
790 M$=SEG(R$,14,2)
800 D$=SEG(R$,12,2)
810 B$="J"
820 A$="I"
830 PRINT Q1:"L"
840 GOSUB 900
850 IF A$<>"Y" THEN 1030
860 PAGE
870 A$=32
880 GOSUB 900
890 GO TO 1030

```

---2--- 900 PRINT Q2:E\$;J\$

```

910 PRINT Q1:F$
920 PRINT Q1:
930 PRINT Q1:G$
940 PRINT Q1: USING "0X,3(3A)";D$,M$,Y$
950 PRINT Q1:
960 PRINT Q1:H$
970 PRINT Q1:
980 PRINT Q1:I$
990 PRINT Q1:L$
1000 PRINT Q1:M$
1010 PRINT Q1:
1020 RETURN
1030 RETURN

```

+++2+++

1040 REM *** SET EOF INDICATOR ***

---3--- 1050 E=1

---1--- 1060 REM *** PRINT LAST LINE OF DATA SHEET ***

```

1070 U$=SEG(X$,1,1)
1080 IF U$<>"0" THEN 1110
1090 V$=""

```

```

+++1+++ 1100 X$=REP(U$,1,1)
1110 PRINT @41:
1120 PRINT @41:0$;:G
1130 IF A$<>'Y' THEN 1200
1140 PRINT
1150 PRINT 0$;X$
1160 PRINT @32:26:3
1170 MOVE 0.0
1180 PRINT
1190 PRINT @32:26:0
1200 IF E=1 THEN 1270
1210 RETURN
+++1+++ 1220 REM *** ERROR - WRONG RECORD TYPE ***
1230 PRINT "RECORD TYPE: "IT$
1240 PRINT "DATA IS NOT "FURNACE RESIDUE CONTROL" DATA
1250 PRINT "*** ABNORMAL PROGRAM END ***"
1260 GO TO 1290
+++1+++ 1270 PAGE
1280 PRINT "*** NORMAL END OF PROGRAM ***"
+++1+++ 1290 END

```

```

100 REM **** PRINT PROGRAM FOR DATA SHEET #14
110 REM **** PROCESS DATA - SPRAY DRYER
120 REM **** VERSION 7 - 3/12/81

130 INIT
140 PAGE
150 DIM B$(2), D$(2), J$(2), K$(36), M$(2), P$(36), R$(27), T$(2), X$(2)
160 PRINT "PROGRAM TO PRINT"
170 PRINT "PROCESS DATA SHEET - SPRAY DRYER"
180 REM "REMOVE PROGRAMMED TAPE FROM UNIT"

190 PRINT "INSERT DATA TAPE IN UNIT 4924"
200 PRINT "JUD YOU WANT TO USE THE HARD COPIER?"
210 PRINT "ENTER (Y OR N) "
220 INPUT A$
230 DIM A$(1)
240 IF A$(1) THEN 260
250 PRINT "MAKE SURE UNIT IS ON AND IS AT OPERATING TEMPERATURE"
260 PRINT "ENTER UNIT NUMBER YOU ARE USING FOR THE DATA TAPE "
270 INPUT U
280 FIND OUT
290 PAGE
300 E=0
310 R$=""
320 N$=""
330 E$=""
340 F$=""
350 G$=""
360 H$=""
370 I$=""
380 L$=""
390 N$="DRUM NUMBER (POUNDS)"
400 O$="TOTAL DRUMS SALT"
410 ON EOF (0) THEN 1050
420 IF U=33 THEN 450
430 INPUT @U,6:Y1
440 IF Y1=1 THEN 1050
450 INPUT @U,13:R$
460 IF U=33 THEN 490
470 INPUT @U,6:Y1
480 IF Y1=1 THEN 1050
490 INPUT @U,13:R$
500 J$=SEG(R$,8,2)
510 T$=SEG(R$,4,2)
520 IF T$<"14" THEN 1220
530 IF O$<"14" THEN 560
540 R$=J$
550 GO TO 580
560 IF J$=R$ THEN 590
570 GOSUB 1050
580 GOSUB 770
590 F$=R$
600 U$=SEG(R$,18,1)
610 F$=REP(U$,4,1)
620 U$=SEG(R$,19,4)
630 F$=REP(U$,6,4)

```

```

640 U$=SEG(R$,23,3)
650 FOR I=1 TO 2
660 V$=SEG(U$,1,1)
670 IF V$<>"0" THEN 710
680 U$=""
690 U$=REF(V$,1,1)
700 NEXT I
+++++
710 P$=REP(U$,10,3)
720 X$=SEG(R$,26,2)
730 PRINT Q1:P$
740 IF A$<>"Y" THEN 460
750 PRINT Q3:P$
760 GO TO 460

```

---1--- 770 REM *** HEADING SUB-ROUTINE ***

```

780 Y$=SEG(R$,14,2)
790 M$=SEG(R$,14,2)
800 U$=SEG(R$,12,2)
810 E$=J$
820 A=41
830 PRINT Q1:L*
840 GOSUB 900
850 IF A$<>"Y" THEN 1030
860 PAGE
870 A=32
880 GOSUB 900
890 GO TO 1030

```

---2--- 900 PRINT Q1:E\$;J\$

```

910 PRINT Q1:F$
920 PRINT Q1:
930 PRINT Q1:G$
940 PRINT Q1: USING "0X,3(3A)"ID$,H$,Y$
950 PRINT Q1:
960 PRINT Q1:H$
970 PRINT Q1:
980 PRINT Q1:I$
990 PRINT Q1:L$
1000 PRINT Q1:M$
1010 PRINT Q1:
1020 RETURN
1030 RETURN
+++++

```

1040 REM *** SET EOF INDICATOR ***

---3--- 1050 E=1

---1--- 1060 REM *** PRINT LAST LINE OF DATA SHEET ***

```

1070 V$=SEG(X$,1,1)
1080 IF V$<>"0" THEN 1110
1090 V$=""

```

```

+++1100 X$=REP(V$1,1)
+++1110 PRINT @A1:
+++1120 PRINT @A10$IX$
+++1130 IF A$<>'Y' THEN 1200
+++1140 PRINT
+++1150 PRINT @3IX$
+++1160 PRINT @32,2613
+++1170 MOVE 0,0
+++1180 PRINT
+++1190 PRINT @32,2610
+++1200 IF E=1 THEN 1270
+++1210 RETURN
+++1220 REM *** ERROR - WRONG RECORD TYPE ***
+++1230 PRINT "RECORD TYPE: "IT$
+++1240 PRINT "DATA IS NOT **SPRAY DRYER** DATA"
+++1250 PRINT "*** ABNORMAL PROGRAM END ***"
+++1260 GO TO 1290
+++1270 PAGE
+++1280 PRINT "*** NORMAL END OF PROGRAM ***"
+++1290 END

```

```

100 REM **** PRINT PROGRAM FOR DATA SHEET #15
110 REM **** PROCESS DATA - ELECTROSTATIC PRECIPITATOR
120 REM **** VERSION 7 -3/12/81

130 INIT
140 PAGE
150 DIM B$(2),D$(2),J$(2),K$(36),M$(2),P$(36),R$(27),T$(2),X$(2)
160 PRINT "PROGRAM TO PRINT"
170 PRINT "PROCESS DATA SHEET - ELECTROSTATIC PRECIPITATOR"
180 REM "JREMOVE PROGRAMMED TAPE FROM UNIT"

190 PRINT "INSERT DATA TAPE IN UNIT 4924"
200 PRINT "JDO YOU WANT TO USE THE HARD COPIER?"
210 PRINT "ENTER (Y OR N)"
220 INPUT A$
230 DIM A$(1)
240 IF A$ <> "Y" THEN 260
250 PRINT "JHANE SURE UNIT IS ON AND IS AT OPERATING TEMPERATURE"
260 PRINT "JENTER UNIT NUMBER YOU ARE USING FOR THE DATA TAPE"
270 INPUT U
280 FIND QU:G
290 PAGE
300 E=0
310 R$=""
320 K$=""
330 E$=""
340 F$="ELECTROSTATIC PRECIPITATOR"
350 U$=""
360 H$=""
370 I$=""
380 L$=""
390 N$="DRUM NUMBER (POUNDS)"
400 O$=""
410 ON EOF (0) THEN 1050
420 IF U=33 THEN 450
430 INPUT QU:G:11
440 IF T1=1 THEN 1050
450 INPUT QU:13:R$
460 IF U=33 THEN 490
470 INPUT QU:G:11
480 IF T1=1 THEN 1050
490 INPUT QU:13:K$
500 J$=SEG(R$,8,2)
510 T$=SEG(R$,4,2)
520 IF T$ <> "15" THEN 1220
530 IF R$ <> "" THEN 560
540 R$=J$
550 G3 TO 580
560 IF J$=R$ THEN 590
570 GOSUB 1060
580 GOSUB 770
590 F$=K$
600 U4=SEG(R$,10,1)
610 F4=REF(U$,4,1)
620 U4=SEG(R$,19,4)
630 F4=REF(U$,6,4)

```

```

440 U$=SEG(K$+23,3)
450 FOR I=1 TO 2
460 V$=SEG(U$,I,1)
470 IF V$<>"0" THEN 710
480 V$=""
490 U$=REP(V$,I,1)
500 NEXT I
710 F$=REP(U$,18,3)
720 X$=SEG(F$,26,2)
730 PRINT @A13:
740 IF A$<>"Y" THEN 460
750 PRINT @J2:
760 GO TO 420

```

++11++

---1--- 770 REM *** HEADING SUB-ROUTINE ***

```

780 Y$=SEG(K$+16,2)
790 M$=SEG(K$+14,2)
800 B$=SEG(K$+12,2)
810 R$=J$
820 A=41
830 PRINT @A:"L"
840 GOSUB 900
850 IF A$<>"Y" THEN 1030
860 PAGE
870 A=32
880 GOSUB 900
890 GO TO 1030

```

---2---

```

900 PRINT @A:R$J$
910 PRINT @A:Y$
920 PRINT @A:M$
930 PRINT @A:B$
940 PRINT @A: USING "BX.3(CIA)*ID$M$.Y$"
950 PRINT @A:
960 PRINT @A:R$
970 PRINT @A:
980 PRINT @A:Y$
990 PRINT @A:R$
1000 PRINT @A:R$
1010 PRINT @A:
1020 RETURN
1030 RETURN

```

++27++

1040 REM *** SET EOF INDICATOR ***

---3--- 1050 E=1

---1--- 1060 REM *** PRINT LAST LINE OF DATA SHEET ***

```

1070 V$=SEG(K$+1,1)
1080 IF V$<>"0" THEN 1110
1090 V$=""

```

```

1100 X=REP(V8,1,1)
1110 PRINT G41:
1120 PRINT G41:USIX$
1130 IF A1>5.Y THEN 1200
1140 PRINT
1150 PRINT USIX$
1160 PRINT G12,26:3
1170 MOVE 0,0
1180 PRINT
1190 PRINT G12,26:0
1200 IF E=1 THEN 1270
1210 RETURN

1220 REM *** ERROR - WRONG RECORD TYPE ***

1230 PRINT "RECORD TYPE: "ITS
1240 PRINT "DATA IS NOT "ELECTROSTATIC PRECIPITATOR" DATA"
1250 PRINT "*** ABNORMAL PROGRAM END ***"
1260 GO TO 1290
1270 PAGE
1280 PRINT "*** NORMAL END OF PROGRAM ***"
1290 END

```


FILE # 10

100 REM **** PRINT PROGRAM FOR DATA SHEET #16 ****
110 REM DOWNTIME DATA - KEYS AND/OR CORRESPONDING NAMES
120 REM VERSION B - 5/20/81

130 REM
140 REM BY: STEARNS-ROGER, INC.
150 REM M. R. HERBERT/M. E. MARTIN ****

160 INIT
170 DIM P(26,2),P*(370),O(59,2),O*(840),R(40,2),R*(290),O*(124)
180 DIM S(37,2),S*(320),T(16,2),T*(190),U(6,2),U*(90),L(132),H\$(101)

190 G=

200 G=G\$IG\$

210 READ F

220 READ P\$

230 FOR I=1 TO 6

240 READ Y\$

250 P\$=P\$Y\$

260 NEXT I

270 DELETE Y\$

280 READ Q

290 READ O\$

300 FOR I=1 TO 15

310 READ Y\$

320 OI=O\$Y\$

330 NEXT I

340 DELETE Y\$

350 READ R

360 READ R\$

370 FOR I=1 TO 5

380 READ Y\$

390 R\$=R\$Y\$

400 NEXT I

410 DELETE Y\$

420 READ S

430 READ S\$

440 FOR I=1 TO 5

450 READ Y\$

460 S\$=S\$Y\$

470 NEXT I

480 DELETE Y\$

490 READ T

500 READ T\$

510 FOR I=1 TO 3

520 READ Y\$

530 T\$=T\$Y\$

540 NEXT I

550 DELETE Y\$

560 READ U

570 READ U\$

580 READ Y\$

590 OI=O\$Y\$

600 DELETE Y\$

710 PAGE

800 PRINT "DO YOU WANT TO LIST?"

810 PRINT "1 - DOWNTIME DATA"

820 PRINT "2 - NAMES CORRESPONDING TO DOWNTIME KEYS"

830 PRINT "ENTER 1 OR 2: "

```

+++1+++ 640 INPUT A
670 IF A=2 THEN 1900
680 IF A=1 THEN 710
690 PRINT "INVALID RESPONSE - ENTER 1 OR 2 ."
700 GO TO 640

+++1+++ 710 REM "REMOVE PROGRAMMED TAPE FROM UNIT"

720 PRINT "JINSERT DATA TAPE IN UNIT 492A"
730 PRINT "ENTER UNIT NUMBER YOU ARE USING FOR THE DATA TAPE ."
740 INPUT U1
750 FIND QU1:1
760 AS=
770 ON EOF (0) THEN 1850
780 IF U1=33 THEN 810
790 INPUT QU1:6:TI
800 IF TI=1 THEN 1850
810 INPUT QU1:13:M$
820 IF U1=33 THEN 850
830 INPUT QU1:6:TI
840 IF TI=1 THEN 1850
850 INPUT QU1:13:M$
860 E1=SEG(M$,4:2)
870 IF E1<>"16" THEN 1870
880 PRINT Q41:"L"
890 PRINT Q41: USING "52X.27A":ID SETS PLANT DOWNTIME DATA"
900 PRINT Q41:
910 PRINT Q41: USING "41X.9A":1'DAY MO YR"
920 C1=SEG(M$,16:2)
930 R1=SEG(M$,14:2)
940 A1=SEG(M$,12:2)
950 PRINT Q41: USING "62X.3(3A)":A1,B1,C1
960 PRINT Q41:
970 A1=SEG(M$,6:2)
980 IF A1<>"40" THEN 1020
990 PRINT Q41:

1000 PRINT Q41: USING "55X.30A":NO PLANT DOWNTIME DATA"
1010 GO TO 1050
1020 PRINT Q41: USING 1030:" TIME","PRIMARY & SECONDARY","CORRECTIVE"
1030 IMAGE 36A:59A,10A
1040 PRINT Q41: USING "41A.5":1'START STOP SIM SUBSYSTEM"
1050 PRINT Q41: USING 1060:"COMPONENTS","DESCRIPTIVE","FAILURE"
1060 IMAGE 16A:19A,21A,5
1070 PRINT Q41:"ACTION"
1080 PRINT Q41:"J",G$
1090 GO TO 1150
1100 PRINT Q41:"J",G$
1110 IF U1=33 THEN 1140
1120 INPUT QU1:6:TI
1130 IF TI=1 THEN 1850
1140 INPUT QU1:13:M$
1150 L1=ASIN$
1160 L1=L1$
1170 L1=L1$
1180 A1=SEG(M$,18:4)
1190 L1=L1$(A1:1:4)
1200 A1=SEG(M$,22:4)
1210 L1=L1$(A1:7:4)
1220 A1=SEG(M$,26:1)
1230 L1=L1$(A1:13:1)

```

1240 REM *** FORMAT SUBSYSTEM ***

1250 A\$=SEG(M\$,27,2)

1260 I=VAL(A\$)

1270 IF I>1 AND I<=25 THEN 1300

1280 IF I<>99 THEN 1330

1290 I=26

1300 B\$=SEG(M\$,P(I,1),P(I,2))

1310 L\$=REP(B\$,16,P(I,2))

1320 REM *** FORMAT PRIMARY COMP ***

1330 A\$=SEG(M\$,29,2)

1340 I=VAL(A\$)

1350 B\$=SEG(M\$,Q(I,1),Q(I,2))

1360 L\$=REP(B\$,37,Q(I,2))

1370 REM *** FORMAT DESCRIPTIVE ***

1380 A\$=SEG(M\$,33,2)

1390 I=VAL(A\$)

1400 IF I>1 AND I<=39 THEN 1430

1410 IF I<>99 THEN 1460

1420 I=40

1430 B\$=SEG(M\$,R(I,1),R(I,2))

1440 L\$=REP(B\$,58,R(I,2))

1450 REM *** FORMAT FAILURE ***

1460 A\$=SEG(M\$,35,2)

1470 I=VAL(A\$)

1480 IF I>1 AND I<=36 THEN 1510

1490 IF I<>99 THEN 1540

1500 I=37

1510 B\$=SEG(M\$,S(I,1),S(I,2))

1520 L\$=REP(B\$,77,S(I,2))

1530 REM *** FORMAT CORRECTIVE ACTION ***

1540 A\$=SEG(M\$,37,2)

1550 I=VAL(A\$)

1560 IF I>1 AND I<=14 THEN 1620

1570 IF I<>98 THEN 1600

1580 I=15

1590 GO TO 1620

1600 IF I<>99 THEN 1650

1610 I=16

1620 B\$=SEG(M\$,T(I,1),T(I,2))

1630 L\$=REP(B\$,96,T(I,2))

1640 REM *** FORMAT EFFECT ON OPERATION ***

1650 A\$=SEG(M\$,39,2)

1660 I=VAL(A\$)

1670 IF I=1 OR I<=3 THEN 1700

1680 B\$=SEG(M\$,U(I,1),U(I,2))

1690 L\$=REP(B\$,115,U(I,2))

1700 REM *** PRINT DETAIL LINE ***

```

1710 PRINT @41:L$
1720 REM *** PRINT SECONDARY COMP ***
1730 A$=SEG(M$,31,2)
1740 IF A$="00" THEN 1790
1750 I=VAL(A$)
1760 B$=SEG(O$,0(I,1),0(I,2))
1770 PRINT @41: USING "3AX,20A,1B$
1780 REM *** PRINT COMMENT ***
1790 B$=SEG(M$,45,57)
1800 C$=SEG(B$,1,5)
1810 IF C$=" " THEN 1100
1820 PRINT @41:
1830 PRINT @41: USING "17A,57A,1" COMMENT: ".B$
1840 GO TO 1100

```

+++1+++

```

---S--- 1850 PRINT *** NORMAL END OF PROGRAM ***
1860 GO TO 2500
+++1+++ 1870 PRINT *** NOT DOWNTIME DATA SHEET 16 ***
1880 PRINT *** ABNORMAL PROGRAM END ***

```

+++1+++

```

1890 GO TO 2500
1900 PRINT @41:"LSUBSYSTEMSJJ"
1910 FOR I=1 TO 25
1920 X$=SEG(P$,P(I,1),P(I,2))
1930 PRINT @41:I,X$
1940 DELETE X$
1950 NEXT I
1960 PRINT @41:
1970 X$=SEG(P$,P(26,1),P(26,2))
1980 I=99
1990 PRINT @41:I,X$
2000 DELETE X$
2010 PRINT @41:"LCOMPONENTSJJ"
2020 FOR I=1 TO 99
2030 X$=SEG(Q$,Q(I,1),Q(I,2))
2040 PRINT @41:I,X$
2050 DELETE X$
2060 NEXT I
2070 PRINT @41:"LDESCRIPTIVE ACTIONJJ"
2080 FOR I=1 TO 39
2090 X$=SEG(R$,R(I,1),R(I,2))
2100 PRINT @41:I,X$
2110 DELETE X$
2120 NEXT I
2130 PRINT @41:
2140 X$=SEG(R$,R(40,1),R(40,2))
2150 I=99
2160 PRINT @41:I,X$
2170 DELETE X$
2180 PRINT @41:"LFAILURE MODESJJ"
2190 FOR I=1 TO 36
2200 X$=SEG(S$,S(I,1),S(I,2))
2210 PRINT @41:I,X$
2220 DELETE X$
2230 NEXT I

```

```

2240 PRINT Q411
2250 X$=SEG(S$,8(37,1),S(37,2))
2260 I=99
2270 PRINT Q411:I,X$
2280 DELETE X$
2290 PRINT Q411:"CORRECTIVE ACTIONJJ"
2300 FOR I=1 TO 14
2310 X$=SEG(T$,I(1,1),T(I,2))
2320 PRINT Q411:I,X$
2330 DELETE X$
2340 NEXT I
2350 PRINT Q411
2360 FOR I=15 TO 16
2370 X$=SEG(T$,I(1,1),T(I,2))
2380 N=I*83
2390 PRINT Q411:K,X$
2400 DELETE X$
2410 NEXT I
2420 PRINT Q411:"LEFFECT ON OPERATIONJJ"
2430 FOR I=1 TO 6
2440 X$=SEG(U$,U(I,1),U(I,2))
2450 PRINT Q411:I,X$
2460 DELETE X$
2470 NEXT I
2480 REM
2490 CLOSE
2500 END
++2++

2510 REM
2520 REM ***** P ARRAY (26,2) *****
2530 DATA 1,18,20,11,32,13,45,20,66,8,75,13,89,5,94,15,110,4,115,20
2540 DATA 142,9,151,12,164,13,178,13,192,12,204,15,220,6,227,11
2550 DATA 239,20,261,9,271,12,284,8,293,16,309,17,327,17,352,14
2560 REM
2570 REM ***** P$ ARRAY (370) - SUBSYSTEM *****
2580 DATA "POWER DISTRIBUTION-SERVICE AIR-POTABLE WATER"
2590 DATA "STEAM AND CONDENSATE-FUEL OIL-PROCESS WASTE-DOORS"
2600 DATA "FIRE PROTECTION-HVAC-ELECTROSTATIC PRECIP-----SCRUBBERS"
2610 DATA "CONTROL ROOM-DEACT FURNACE-DECON FURNACE-AFTER BURNER"
2620 DATA "EMERGENCY POWER-QUENCH-SPRAY DRYER-RECEIVING & HANDLING---"
2630 DATA "GLOVE BOX-DECON MODULE-BOX FEED-RESIDUE HANDLING"
2640 DATA "SET MOVEMENT(15Y)-ENVIRO MONITORING-----ADMINISTRATIVE"
2650 REM
2660 REM ***** Q ARRAY (99,2) *****
2670 DATA 1,15,17,5,23,4,28,5,34,4,39,4,44,5,50,5,55,8,64,7,72,8
2680 DATA 81,14,96,5,102,7,109,4,114,15,130,6,137,6,144,6,151,10
2690 DATA 141,12,174,6,181,10,192,19,211,19,231,19,251,5,257,4
2700 DATA 261,11,273,10,284,8,293,4,298,6,305,8,313,11,325,12,330,4
2710 DATA 343,5,349,4,354,6,361,4,365,4,376,5,382,10,393,14
2720 DATA 409,6,415,6,421,5,427,6,434,4,439,4,444,6,451,4,456,4
2730 DATA 461,4,468,6,474,8,483,20,507,7,515,6,522,3
2740 DATA 525,8,534,6,541,9,551,6,558,10,569,5,574,20,596,13
2750 DATA 610,10,621,8,629,15,645,1,647,5,653,9,662,14,677,5

```

```

2760 DATA 602,7,690,7,698,20,719,8,720,3,731,5,737,5,743,7,751,8,760,6
2770 DATA 767,4,772,6,779,5,784,4,789,5,793,3,799,7,807,9,817,6
2780 DATA 824,4,829,5
2790 REM
2800 REM ***** O% ARRAY (040) - COMPONENTS *****
2810 DATA *ACTUATOR,FEELER-MOTOR-PUMP-VALVE-BELT-SEAL-SHAFT-CHAIN*
2820 DATA *SPRCKET-GEARING-CYLINDER-VALVE,SOLENOID-RELAY-CONTACT*
2830 DATA *FUSE-CIRCUIT BREAKER-WIRING-SWITCH-CAMERA-CONTROLLER*
2840 DATA *FAN AND TILT-DARPER-POSITIONER-AIR HANDLING UNIT 1*
2850 DATA *AIR HANDLING UNIT 2-AIR HANDLING UNIT 3-TIMER-HOSE*
2860 DATA *TRANSMITTER-SPRAY TREE-CONVEYOR-GEAR-WINDOW-HOT SHOE*
2870 DATA *INSIDE CART-OUTSIDE CART-DOOR-GAUGE-TANK-HOPPER-TRAY*
2880 DATA *RACK-HOIST-CABLE-BLOCK/HOOK-LIFTING DEVICE-PALLET-BURNER*
2890 DATA *PILLOT-FIREVE-SUMP-PIPE-BOILER-COIL-TRAP-HEATER-FILTER*
2900 DATA *SINKER-THERMOSTAT/THERMOCOIL---LINKAGE-BLOWER-FAN*
2910 DATA *OVERPACK-GLOVES-SPINDLER-WRENCH-COMPRESSOR-DRYER*
2920 DATA *HEAT EXCHANGE/COOLER---CONTROL PANEL-TV MONITOR-CART TOP*
2930 DATA *CIRCUIT BREAKER- -LIGHT-MIRAN 80-BUBBLER/FILTER-TABLE*
2940 DATA *PIG SET-BOX SET-CONNECTOR/ATTACHMENT-LINK/TAB-PIN*
2950 DATA *ALARM-STAGE-STATION-VIBRATOR-RAPPER-GRID-SAMPLE-WHEEL*
2960 DATA *BAND-STACK-SKI-BATTERY-REGULATOR-BRIDGE-IRIS-OTHER*
2970 REM
2980 REM ***** R ARRAY (40,2) *****
2990 DATA 1,5,7,5,13,4,18,4,23,3,27,3,31,3,35,3,39,3,43,5,49,5
3000 DATA 54,9,64,9,74,11,86,8,95,5,101,4,105,8,114,5,120,5,126,5
3010 DATA 132,10,143,11,154,8,163,9,173,3,177,5,183,6,190,7,198,7
3020 DATA 205,6,212,9,222,8,231,6,238,8,247,5,252,7,260,7,268,8,277,5
3030 REM
3040 REM ***** R% ARRAY (290) - DESCRIPTIVE *****
3050 DATA *NORTH-SOUTH-EAST-WEST-N01-N02-N03-N04-N05-UPPER-LOWER*
3060 DATA *HYDRAULIC-PNEUMATIC-TEMPERATURE-PRESSURE-LEVEL-FLOW*
3070 DATA *POSITION-FLAME-BRINE-STEAM-CONDENSATE-NATURAL GAS*
3080 DATA *FUEL OIL-LUBRICANT-AIR-WATER-BYPASS-CONTROL-SHUTOFF*
3090 DATA *SUPPLY-ISOLATION-SOLENOID-RELIEF-TRANSFER-AGENT*
3100 DATA *PIG SET-BOX SET-OVERSIZE-OTHER*
3110 REM
3120 REM ***** S ARRAY (37,2) *****
3130 DATA 1,7,9,19,7,27,6,34,4,39,4,44,8,53,4,57,6,64,17,82,8
3140 DATA 91,3,95,2,98,5,104,11,115,6,122,5,128,17,152,5,158,12
3150 DATA 170,11,182,13,196,6,203,10,214,9,223,6,230,11,242,11
3160 DATA 254,10,265,4,270,3,273,6,280,7,288,4,293,6,300,5,306,5
3170 REM
3180 REM ***** S% ARRAY (320) - FAILURE MODES *****
3190 DATA *MISSING-NOT READY-WAITING-BURNED-LEAK-MADE-NOT MADE-BENT*
3200 DATA *BROKEN-OUT OF ADJUSTMENT-FLAME-OUT-OFF-ON-LOOSE-AIR IN LINE*
3210 DATA *JAMMED-STUCK-FALSE SIGNAL/READ-----EMPTY-OUT OF STOCK*
3220 DATA *HUMAN ERROR-CAUSE UNKNOWN-FEGGED-INSPECTION-OFF TRACK*
3230 DATA *RETURN-ROKOFFED PIG-CHANGE TEST-INCOMPLETE-HIGH-LOW*
3240 DATA *WARPED-PLUGGED-FULL-FROZEN-DIRTY-OTHER*

```

```

3250 REM
3260 REM ***** T ARRAY (16,2) *****
3270 DATA 1,11,13,6,20,9,30,15,46,5,51,18,73,7,81,14
3280 DATA 95,7,103,18,127,18,146,15,162,7,170,8,179,4,184,5
3290 REM
3300 REM ***** T* ARRAY (190) - CORRECTIVE ACTION *****
3310 DATA "INVESTIGATE-ADJUST-LUBRICATE-REPAIR IN PLACE-RESET"
3320 DATA "REMOVE/REPAIR/REPL-----INSTALL-REMOVE/REPLACE"
3330 DATA "RESTART-START BACKUP/STDBY-----PROBLEM DISAPPEARED--"
3340 DATA "ACTION DEFERRED-CLEANED-UNJAMMED-NONE-OTHER"
3350 REM
3360 REM ***** U ARRAY (6,2) *****
3370 DATA 1,12,14,17,34,6,41,13,54,12,67,15
3380 REM
3390 REM ***** U$ ARRAY (90) - EFFECT ON OPERATION *****
3400 DATA "DISCONTINUED-INTERRUPT/RESUMED---SLOWED-DELAYED START"
3410 DATA "NOT AFFECTED-CROUSED OVERTIME"
3420 REM
3430 REM ***** END OF PROGRAM *****

```

FILE # 1

1 GO TO 100
4 GO TO 310
8 GO TO 310

++++ 100 REM ***
110 REM ***
120 INIT
130 PAGE

140 SET KEY

150 PRINT .

160 PRINT .

170 PRINT .JJ

180 PRINT .

190 PRINT .

200 PRINT .

210 PRINT .J

230 REM

240 PRINT .JJJ

250 INPUT F

260 IF F>2 THEN 290

270 FIND F+1

280 OLD

290 PRINT .INVALID KEY NUMBER - REENTER .)

300 GO TO 250

310 PRINT .END OF PROGRAM.

370 END

330 REM ***** END OF PROGRAM *****

DIRECTORY FOR HERGE PROGRAMS,
VERSION 3 - 07/31/81

DIRECTORY FOR PROGRAMS TO HERGE DATA,
FOR TRANSMISSION TO THE UNIVAC 1100.

KEY PROGRAM.

1 MIRAN 80 DATA (DATA SHEET 9).
2 INVENTORY DATA (DATA SHEETS 10-15).

ENTER KEY FROM THE ABOVE LIST: .)

FILE # 2

1 GO TO 100
4 GO TO 250
8 GO TO 1420

+++++ 100 REM ***
110 REM
120 REM
130 REM
140 REM
150 REM ***
160 INIT
170 SET KEY
180 DIM A\$(1),U\$(18),V\$(24),X\$(104),Y\$(445),Z\$(106),R(54),Q(5)
190 READ R,U,V\$
200 REM
210 T=0
220 N\$=""
230 I\$="X" X X X X
240 U\$="RMA5510"
250 PAGE
260 PRINT "JMERGE PROGRAM FOR MIRAN 80 DATA"
270 REM
280 REM ***** MOUNT INPUT DATA TAPE AND CHECK LABEL*****
290 PRINT "JINSERT MIRAN INPUT DATA TAPE INTO CONSOLE"
300 PRINT "ENTER THE FIRST 3 LETTERS OF THE DAY OF THE WEEK"
310 INPUT T\$
320 T\$=SEG(T\$,1,3)
330 FIND 1
340 INPUT Q23,13:1X\$
350 S\$=SEG(Q\$,4,2)
360 B\$=SEG(Q\$,8,3)
370 C\$=SEG(Q\$,8,9)
380 IF S\$="09" AND B\$=T\$ THEN 440
390 PRINT "THIS IS THE WRONG INPUT DATA TAPE"
400 PRINT "THIS TAPE IS FOR DATA SHEET #",S\$," FOR "C\$
410 GO TO 290
420 REM
430 REM ***** PREPARE OUTPUT DATA TAPE *****
440 PRINT "JINSERT OUTPUT TAPE INTO UNIT 4924"
450 PRINT "ENTER THE UNIT NUMBER YOU ARE USING FOR THE OUTPUT TAPE"
460 INPUT U
470 FIND QU:1
480 PRINT "DO YOU NEED TO LABEL THIS TAPE? (ENTER Y OR N)"
490 INPUT A\$
500 IF A\$="Y" THEN 500
510 PRINT "HOW MUCH SPACE DO YOU NEED?"
520 INPUT F
530 MARK QU:1,F
540 FIND QU:1
550 Z\$="RMA5500"X\$
560 PRINT QU,12:Z\$

+++++

+++++

+++++

```

+++1+++
570 GO TO 480
580 INPUT @U,131Z$
590 S$=SEG(Z$,4,2)
600 R$=SEG(Z$,8,3)
610 C$=SEG(Z$,8,9)
620 IF S$="SS" AND R$=T$ THEN 680
630 PRINT "THIS IS THE WRONG OUTPUT TAPE"
640 PRINT "THIS TAPE IS FOR *1S* FOR *IC"
650 GO TO 440

```

```

660 REM
670 REM ***** PROCESS MIRAN DATA *****

```

```

+++2+++
680 PRINT @41:"L"1Z$
690 INPUT @31X$
700 K1=0
710 PRINT @41:
720 Y$=X$
730 IF TYP(0)=1 THEN 840
740 INPUT @33X$
750 R$=SEG(X$,6,1)
760 IF R$="1" THEN 870
770 L=LEN(X$)
780 L=L-36
790 K1=K1+1
800 @$=SEG(X$,37,L)
810 Y$=Y$AQ$
820 Q(K1)=L
830 GO TO 730
+++1+++
840 T=1

```

```

850 REM
860 REM ***** NUMERICAL DATA *****

```

```

+++1+++
870 Z$=W$ZHS
880 I1=1
890 FOR I=1 TO 6
900 R$=SEG(Y$,R(I1),R(I1+2))
910 Z$=REP(R$,R(I1+1),R(I1+2))
920 I1=I1+3
930 NEXT I
940 D$=SEG(Z$,29,2)
950 IF D$="FL" THEN 1030
960 Z$=REP("X" X ".31,B)
970 J1=4
980 J2=4
990 N1=7
1000 N2=19
1010 I1=46
1020 GO TO 1070
+++1+++
1030 J1=1
1040 J2=3
1050 N1=1
1060 N2=1

```

```

+++1+++
1070 FOR J=J1 TO J2
1080 FOR I=1 TO 3
1090 K$=SEG(Y$,R(I1),R(I1+2))
1100 Z$=REP(R$,R(I1+1),R(I1+2))
1110 I1=I1+3
1120 NEXT I

```

```

1130 R=SEG(U,N1,2)
1140 Z=REP(R,4,2)
1150 R=SEG(U,N2,6)
1160 Z=REP(R,20,6)
1170 PRINT @A1Z$
1180 PRINT @U,12Z$
1190 N1=N1+2
1200 N2=N2+6
1210 IF K1=0 THEN 1360
1220 REM
1230 REM ***** COMMENTB *****
1240 L1=105
1250 FOR K=1 TO K1
1260 L7=0(K)
1270 Z=SEG(Z$,1,38)
1280 N=SEG(U,2*K+7,2)
1290 Z=REP(N,6,2)
1300 Q=SEG(Y,L1,L2)
1310 Z=Z$80$
1320 PRINT @A1Z$
1330 PRINT @U,12Z$
1340 L1=L1+L2
1350 NEXT K
1360 Z=SEG(Z$,1,39)
1370 Z=REP("10",6,2)
1380 Z=Z$81$
1390 NEXT J
1400 IF T=0 THEN 700
1410 GO TO 1440
1420 PRINT "J*** ABNORMAL PROGRAM END ****"
1430 GO TO 1450
1440 PRINT "JHORMAL PROGRAM END"
1450 PRINT @U,2:
1460 END
1470 REM
1480 REM ***** R ARRAY (54) *****
1490 DATA 8,8,2,12,10,6,20,27,4,24,26,1,25,16,4,29,31,8
1500 DATA 27,39,7,44,46,7,51,60,3
1510 DATA 54,39,7,61,46,7,68,60,3
1520 DATA 71,39,7,78,46,7,85,60,3
1530 DATA 88,53,7,95,39,7,102,60,3
1540 REM
1550 REM ***** U$ (18) *****
1560 DATA "55565/56201222324"
1570 REM
1580 REM ***** V$ (24) *****
1590 DATA "PS CG CHCL3 CHALNS"
1600 REM
1610 REM ***** END OF PROGRAM *****

```

FILE # 3

```

1 GO TO 100
4 GO TO 1190
8 GO TO 1190

+++1+++
100 REM ***
110 REM *** PROGRAM TO MERGE INVENTORY DATA ***
120 REM ALL INVENTORY DATA FOR A GIVEN DAY ARE WRITTEN TO ONE
130 REM FILE WHICH WILL BE APPENDED TO THE UNIVAC 1108.
140 REM VERSION 3 - 06/08/81
150 REM
160 REM ***
170 PAGE
180 INIT
190 SET KEY
200 DIM D(12),W(6),A$(1),U$(6),X$(70),Z$(65)
210 READ D,U$,W
220 G$=
230 C=0
240 PRINT "JND YOU WANT TO MERGE INVENTORY DATA? (ENTER Y OR N) "
250 INPUT A$
260 IF A$<>"N" THEN 290
270 PRINT "JYOU ARE USING THE WRONG PROGRAM"
280 GO TO 1190
+++1+++
290 PRINT "JINSERT THE INPUT DATA TAPE INTO THE CONSOLE."
300 PRINT "JENTER THE FIRST 3 LETTERS OF THE DAY OF THE WEEK: "
310 INPUT T$
320 T$=SEG(T$,1,3)
330 FIND 1
340 INPUT Q33:X$
350 S$=SEG(X$,4,2)
360 B$=SEG(X$,8,3)
370 C$=SEG(X$,8,9)
380 IF S$="10" AND B$=T$ THEN 440
390 PRINT "JTHIS IS THE WRONG INPUT DATA TAPE"
400 PRINT "JTHIS TAPE IS FOR DATA SHEET #1$S$ FOR #1C$
410 GO TO 1190

420 REM
430 REM ***** PREPARE OUTPUT DATA TAPE *****
+++2+++
440 PRINT "JINSERT OUTPUT TAPE INTO UNIT 4924"
450 PRINT "JENTER THE UNIT NUMBER YOU ARE USING FOR THE OUTPUT TAPE: "
460 INPUT U
470 FIND EU1
480 PRINT "JDO YOU NEED TO LABEL THIS TAPE? (ENTER Y OR N) "
490 INPUT A$
500 IF A$<>"Y" THEN 600
510 PRINT "JHOW MUCH SPACE DO YOU NEED? "
520 INPUT F
530 MARK EU1:F
540 FIND EU1
550 Z$=Z$&G$
560 Z$=Z$&G$
570 PRINT "41:Z$
580 PRINT "0:12:Z$
590 GO TO 700
+++1+++
600 INPUT EU,13:Z$

```

```

610 S=SEG(Z8,A,2)
620 R=SEG(Z8,B,3)
630 D=SEG(Z8,B,9)
640 IF S="60" AND B="1" THEN 700
650 PRINT "THIS IS THE WRONG OUTPUT TAPE"
660 PRINT "THIS TAPE IS FOR 8-1981" FOR "ID"
670 GO TO 440

```

```

680 REM
690 REM ***** PROCESS INVENTORY DATA *****

```

```

++2+++ 700 FOR I=1 TO 6
710 ON EOF (0) THEN 950
720 IF I=1 THEN 770
730 FIND I
740 INPUT Q3,13:K

```

```

750 REM
760 REM ***** PROCESS INPUT FILE I *****

```

```

++2+++ 770 INPUT Q3,13:K
780 IF C<0 THEN 810
790 GOSUB 1020
800 M="RMA6010-IE"
810 P4=SEG(M,5,3)
820 M=REP(M,5,3)
830 X1=REP(M,1,17)
840 N1=M(1)
850 P4=SEG(M,1,N1)
860 Z=X1(7)
870 Z=LIN(Z)
880 IF Z=5 THEN 920
890 FOR N=11 TO 65
900 Z=X1(N)
910 NEXT N
++1+++ 920 PRINT Q4:Z
930 PRINT Q5,12:Z
940 GO TO 770

```

```

---1--- 950 PRINT Q4:J
960 PRINT Q4:END OF FILE "DI
970 PRINT Q4:
980 NEXT I
990 GO TO 1210

```

```

1000 REM
1010 REM ***** SUBROUTINE 1 - CHANGE DATE TO JULIAN FORM *

```

```

---1--- 1020 M=SEG(X,12,6)
1030 R=SEG(X,5,2)
1040 S="E18-600"
1050 M=SEG(X,3,2)
1060 M1=REP(M)
1070 M1=SEG(M1,1,2)
1080 M1=REP(M1)
1090 M1=REP(M1)
1100 M1=REP(M1)

```

```

1110 N1=LEN(M1)-1
1120 M1=SGN(M1,2,M1)
1130 M2=6-M1
1140 E1=REP(M1,M2,M1)
1150 C=1
1160 RETURN

1170 REM ***** END OF SUBROUTINE 1 *****
1180 REM

+++++
1190 PRINT "J*** ABNORMAL PROGRAM END ***"
1200 GO TO 1220
+++++
1210 PRINT "JNORMAL PROGRAM END"
+++++
1220 PRINT "U,2"
1230 END

1240 REM

1250 REM ***** D ARRAY (12) *****
1260 DATA 0.31,59,90,120,131,181,212,243,273,304,334

1270 REM

1280 REM ***** US ARRAY (4) *****
1290 DATA "012345"

1300 REM

1310 REM ***** M ARRAY (6) *****
1320 DATA 0.0,39,43,43,43

1330 REM

1340 REM ***** END OF PROGRAM *****

```

FILE #1

1 GO TO 100
4 GO TO 420
8 GO TO 400

100 REM *****
110 REM
120 REM
130 REM
140 REM
150 REM *****

BY: STEARNS-ROGER INC.
H.E. MARTIN

160 PRINT
170 PAGE

180 SET KEY
190 PRINT

200 PRINT
210 PRINT "JJ"

220 PRINT "KEY
230 PRINT "-----"

240 PRINT "1
250 PRINT "2

260 PRINT "3
270 PRINT "4

280 PRINT "5
290 PRINT "6

300 PRINT
310 PRINT
320 PRINT
330 PRINT

340 REM

350 PRINT "***** LIST DIRECTORY PROGRAM *****"

360 INPUT "ENTER KEY FROM THE ABOVE LIST: "

370 IF 1-6 THEN 400

380 PRINT "111"

390 PRINT "122"

400 PRINT "133"

410 PRINT "144"

420 PRINT "155"

430 PRINT "166"

440 PRINT "177"

450 PRINT "188"

460 PRINT "199"

470 PRINT "200"

480 PRINT "211"

490 PRINT "222"

500 PRINT "233"

510 PRINT "244"

520 PRINT "255"

530 PRINT "266"

540 PRINT "277"

550 PRINT "288"

FILE # 2

```

1 GO TO 100
4 GO TO 2500
8 GO TO 2500

+++++
100 REM *****
110 REM
120 REM
130 REM
140 REM
150 REM
160 REM
170 REM
180 REM
190 REM
200 REM
210 REM *****

TOTALS - P1
VERSION 7 - 10/20/81
THIS PROGRAM KEEPS A RUNNING COUNT OF THE ID SETS
IN THE INVENTORY. INPUT DATA ARE FROM DATA SHEET
#10 - BUILDING 1411 RECEIPT INSPECTION DATA.
THE DAILY OUTPUT RECORD CONTAINS THE NUMBER OF EACH
TYPE OF SET PROCESSED THAT DAY AND THE ACCUMULATED
TOTAL OF SETS DESTROYED TO DATE.

BY: STEARNS-ROGER, INC.
M.E. MARTIN

*****

220 PAGE
230 INIT
240 SET KEY
250 DIM C(7,3),T(7),K(9),M(3)
260 DIM A$(1),N$(32),L$(70),U$(36),X$(69),Y$(20),Z$(70)
270 PRINT "JDO YOU WANT TO UPDATE ID SET TOTALS? (ENTER Y OR N) "
280 INPUT A$
290 IF A$ <> "N" THEN 320
300 PRINT "YOU ARE USING THE WRONG TOTALS PROGRAM"
310 GO TO 2500
320 READ T,N,L$
330 READ Y$
340 READ M$
350 FOR I=1 TO 9
360 K(I)=0
370 NEXT I
380 M$="0 0 0 0 0 0 0 0 0"
390 GOTO 400
400 GOTO 400
410 PRINT "JDO YOU HAVE DATA TO ENTER? (ENTER Y OR N) "
420 INPUT A$
430 A$=I
440 IF A$ <> "N" THEN 540
450 A$=0
460 PRINT "ENTER TODAY'S DATE (DDMMYY) "
470 INPUT Y$
480 Y$=LEFT$(Y$,6)
490 IF LEN(Y$) < 6 THEN 520
500 PRINT "YOUR DATE MUST HAVE 6 CHARACTERS"
510 GO TO 460
520 Y$=Y$+""
530 GO TO 100
540 PRINT "INSERT THE INVENTORY DATA TAPE INTO THE CONSOLE"
550 PRINT "ENTER THE FIRST 3 LETTERS OF THE DAY OF THE WEEK: "
560 INPUT Y$
570 Y$=LEFT$(Y$,3)
580 Y$=Y$+""
590 PRINT "ENTER THE FIRST 3 LETTERS OF THE DAY OF THE WEEK: "
600 INPUT Y$
610 Y$=LEFT$(Y$,3)
620 Y$=Y$+""

```


430 IF S#="10" AND B#="1" THEN 490
 440 PRINT "THIS IS THE WORKING INPUT DATA TAPE."
 450 PRINT "THIS TAPE IS FOR DATA SHEET #1533." FOR "IC"
 460 GO TO 2500

670 REM *****
 680 REM ***** PROCESS INPUT DATA TOTALS *****

690 INPUT @331Z\$
 700 I\$=SEG(Z\$,12,6)
 710 I\$=C@I\$

720 GO TO 760

730 PRINT

740 IF IYP(0)=1 THEN 930

750 INPUT @331Z\$

760 S\$=SEG(Z\$,26,1)

770 IF S\$="X" THEN 740

780 S\$=SEG(Z\$,10,1)

790 IF S\$="X" THEN 820

800 N(9)=N(9)+1

810 GO TO 740

820 S\$=SEG(Z\$,18,4)

830 N4=1

840 FOR I=1 TO 8

850 I\$=SEG(N\$,K4,4)

860 IF S\$="T" THEN 890

870 K(1)=K(1)+1

880 GO TO 740

890 N4=N4+4

900 NEXT I

910 PRINT "J'IS" IS NOT A VALID ID SET AND CANNOT BE COUNTED"

920 GO TO 740

930 C(1,1)=K(1)+K(2)

940 C(2,1)=K(3)

950 C(3,1)=K(4)+K(5)

960 C(4,1)=K(6)+K(7)

970 C(5,1)=K(8)

980 C(6,1)=K(9)

990 C(7,1)=0

1000 FOR I=1 TO 6

1010 C(7,1)=C(7,1)+C(I,1)

1020 NEXT I

1030 REM

1040 REM ***** PREPARE OUTPUT TAPE *****

1050 PRINT "INSERT OUTPUT DATA TAPE (ID SET TOTALS) INTO UNIT 4924"

1060 PRI "ENTER THE UNIT NUMBER YOU ARE USING FOR THE OUTPUT TAPE: "

1070 INPUT U

1080 PRINT "DO YOU NEED TO INITIALIZE THIS TAPE (ENTER Y OR N) "

1090 INPUT A\$

1100 FOR I=1

1110 IF A\$="Y" THEN 1420

1120 PRINT "HOW MUCH SPACE DO YOU NEED? "

1130 INPUT F

1140 MARK C(1,1)+F

1150 FIND C(1,1)

1160 PRINT "DO YOU NEED TO ENTER CUMULATIVE TOTALS? (ENTER Y OR N) "

1170 INPUT A\$

1180 IF A\$="Y" THEN 1360

```

+++1+++ 1190 PRINT "J"
1200 X$=I$*M$
1210 FOR I=1 TO 7
1220 PRINT "ENTER CUMULATIVE TOTAL NO. "I$;"
1230 INPUT U$
1240 A=LEN(U$)
1250 IF A=5 THEN 1290
1260 FOR J=A+1 TO 5
1270 U$=" "U$
1280 NEXT J
1290 X$=X$U$
1300 NEXT I
1310 A=LEN(X$)
1320 IF A=69 THEN 1380
1330 PRINT "J CUMULATIVE TOTALS CANNOT HAVE MORE THAN 5 DIGITS."
1340 PRINT "REENTER DATA FROM THE BEGINNING."
1350 GO TO 1190
+++1+++ 1360 X$=I$*M$
1370 X$=X$*0
1380 PRINT QU,121X$
1390 GO TO 1460
+++1+++ 1400 INPUT QU,6:F
1410 IF F=1 THEN 1460
+++1+++ 1420 INPUT QU,13:X$
1430 GO TO 1400
1440 REM
1450 REM ***** UPDATE WITH A ZERO RECORD *****
+++1+++ 1460 IF A6=1 THEN 1710
1470 X$=REP(V$,0,6)
1480 X$=REP(H$,14,21)
1490 PRINT QU,121X$
1500 Q$=X$
1510 X$=""
1520 K2=35
1530 FOR I=1 TO 7
1540 R$=REG(Q$,K2,5)
1550 N$=T(I)-VAL(R$)
1560 R$=STR(R)
1570 R=LEN(R$)
1580 IF R=5 THEN 1650
1590 IF R>5 THEN 1640
1600 FOR J=R+1 TO 5
1610 R$=" "R$
1620 NEXT J
1630 GO TO 1650
+++1+++ 1640 R$=REP(R$,R-4,5)
+++1+++ 1650 X$=X$R$
1660 K2=K2+5
1670 NEXT I
1680 GO TO 1650
1690 REM
1700 REM ***** UPDATE LAST RECORD *****
+++1+++ 1710 K2=35
1720 FOR I=1 TO 7
1730 R$=REG(X$,K2,5)
1740 C(I,2)=VAL(R$)+C(I,1)

```

```

1750 C(I,3)=I(I)-C(I,2)
1760 REM **** C(I,1) IS DAILY TOTAL; C(I,2) IS ACCUMULATIVE TOTAL
1770 REM **** C(I,3) IS NUMBER OF ID SETS REMAINING

1780 K2=N2+5
1790 NEXT I
1800 X$=I$
1810 M(1)=3
1820 M(2)=5
1830 M(3)=5
1840 FOR N=1 TO 3
1850 M1=M(N)
1860 FOR I=1 TO 7
1870 K$=STR(C(I,N))
1880 R=LEN(R$)
1890 IF R=M1 THEN 1960
1900 IF R>M1 THEN 1950
1910 FOR J=R+1 TO M1
1920 K$=K$+R$
1930 NEXT J
1940 GO TO 1960
1950 K$=SEG(R$,R-M1+1,M1)
1960 X$=X$+R$
1970 NEXT I
1980 GO TO N OF 2020,1990,2050
1990 PRINT @U,12:1X$
2000 O$=X$
2010 X$=..
2020 NEXT N

+++1+++
+++2+++

+++1+++
+++2+++

2030 REM
2040 REM ***** PROCESS DATE *****
2050 E$=SEG(I$,8,2)
2060 F$=SEG(I$,10,2)
2070 H$=SEG(I$,12,2)
2080 F=VAL(F$)
2090 F=34F-2
2100 F$=SEG(W$,F,3)
2110 D$=
2120 D$=REP(E$,1,2)
2130 H$=REP(F$,4,3)
2140 D$=REP(H$,8,2)

2150 REM
2160 REM ***** PRINT DAILY REPORT *****
2170 A=41
2180 GOSUB 2540
2190 K1=1
2200 N2=14
2210 N3=35
2220 N4=1
2230 FOR I=1 TO 7
2240 E$=SEG(L$,K1,10)
2250 F$=SEG(O$,N2,3)
2260 H$=SEG(Q$,N3,5)
2270 S$=SEG(X$,N4,5)
2280 PRINT @A: USING "6X,10A,3A,BX,10A,5A,10A,5A" IE$,F$,E$,H$,E$,S$

```

```

2290 K1=K1+10
2300 K2=K2+3
2310 K3=K3+5
2320 K4=K4+5
2330 NEXT I
2340 GOSUB 2750
2350 IF A=32 THEN 2430
2360 PRINT "JDO YOU WANT A HARD COPY? (ENTER Y OR N) "
2370 INPUT A$
2380 IF A$ <> "Y" THEN 2470
2390 PAGE
2400 MOVE 0,100
2410 A=32
2420 GO TO 2180
2430 PRINT @A:26;3
2440 MOVE 0,0
2450 PRINT
2460 PRINT @A:26;0
2470 PRINT "NORMAL END OF PROGRAM"
2480 PRINT @U:2;
2490 GO TO 3110
2500 PRINT "J**** ABNORMAL END OF PROGRAM ****"
2510 GO TO 3110

2520 REM
2530 REM ***** SUBROUTINE 1 - PRINT PAGE HEADING *****

```

```

-----1-----
2540 IF A=32 THEN 2620
2550 PRINT @A:L
2560 PRINT @A: USING "8A,49X,6A,9A":"DRXTH-SE",DATE: ".D$
2570 PRINT @A:J,J
2580 PRINT @A: USING "39A,S":"MEMORANDUM FOR COLONEL JOHN D. SPENCE,
2590 PRINT @A: USING "8A":"USATHANA"
2600 PRINT @A:J
2610 GO TO 2670
2620 PRINT @A: USING "8A,49X,6A,9A":"DRXTH-SE",DATE: ".D$
2630 PRINT @A:
2640 PRINT @A: USING "39A,S":"MEMORANDUM FOR COLONEL JOHN D. SPENCE,
2650 PRINT @A: USING "8A":"USATHANA"
2660 PRINT @A:
2670 PRINT @A: USING "41A":"SUBJECT: ID SETS DAILY OPERATIONS REPORT"
2680 PRINT @A:
2690 PRINT @A: USING "6X,34A,S":"-----TYPES AND TOTALS OF ID
2700 PRINT @A: USING "25A":"SETS PROCESSED-----"
2710 PRINT @A: USING "6X,13A,8X,15A,S":"-----TODAY-----",SINCE STARTUP--
2720 PRINT @A: USING "8X,15A":"---REMAINING---"
2730 PRINT @A:
2740 RETURN

2750 GEM ***** END OF SUBROUTINE 1 *****
2760 REM
2770 REM ***** SUBROUTINE 2 - PRINT END OF PAGE *****

```

```

-----1-----
2780 N$="
2790 H$="
2792 PRINT @A: "JJJJJJJJJJJJJJJJJJJJ"

```

```

2795 GO TO 3060

2790 REM ***** SKIP PART OF OUTPUT

2800 IF A=32 THEN 2840
2810 N=3
2820 PRINT @A: "JJ"
2830 GO TO 2860
+++1+++

2840 N=2
2850 PRINT @A: "OPERATIONAL REMARKS:"
2860 PRINT @A:
2880 PRINT @A: USING "2X,35A,S:1.1. PROBLEMS/SOLUTIONS:"
2890 PRINT @A: USING "30A,15A:IN$,M$
2900 FOR I=1 TO N
2910 PRINT @A:
2920 PRINT @A: USING "2930:IN$,N$,"-----
2930 IMAGE 2X,30A,30A,10A
2940 NEXT I
2950 PRINT @A:
2960 PRINT @A: USING "2X,37A,S:1.2. EXPOSURES/EMISSIONS/EXPLOSIONS:"
2970 PRINT @A: USING "30A,3A:IN$,-----"
2980 FOR I=1 TO N
2990 PRINT @A:
3000 PRINT @A: USING "2930:IN$,N$,"-----
3010 NEXT I
3020 IF A=32 THEN 3050
3030 PRINT @A: "JJJ"
3040 GO TO 3060
+++1+++

3050 PRINT @A: "JJ"
3055 REM ***** END OF SKIPPED OUTPUT

+++2+++

3060 PRINT @A: USING "2X,12A,1A,12X,15A,12X,15A:IN$,M$,M$
3070 PRINT @A: USING "3080: SUBMITTED BY", REVIEWED BY", APPROVED BY"
3080 IMAGE 4X,12A,1A,11A,16X,11A
3090 RETURN

3100 REM ***** END OF SUBROUTINE 2 *****
+++2+++

3110 END

3120 REM
3130 REM ***** T ARRAY (7) - NUMBER OF ID SETS. *****
3140 DATA 806,1335,10799,497,94,6166,19697

3150 REM
3160 REM ***** K$ ARRAY (32) *****
3170 DATA "K94IN942K945K951N952K953K954K955"

3180 REM
3190 REM ***** L$ ARRAY (70) *****
3200 DATA "K941/942 K945 K951/952 K953/954 K955
3210 DATA "X-TYPE TOTAL
3220 REM
3230 REM ***** U$ ARRAY (36) *****

```

3240 DATA *JANFEDHARAFR MAY JUN JUL AUG SEP OCT NOV DEC*

3250 REM

3260 REM ***** END OF PROGRAM *****

```

1 GO TO 100
4 FIND QU:1
5 INPUT QU,13:Z$
6 GO TO 480
8 GO TO 1930

```

```

+++1+++ 100 REM ****
110 REM
120 REM
130 REM
140 REM
150 REM
160 REM
170 REM
180 REM
190 REM ****

```

TOTALS - P2

VERSION 7 - 10/20/81

THIS PROGRAM PRINTS AN OPERATIONS REPORT OF TOTAL ID

SETS PROCESSED OVER A SPECIFIED PERIOD OF TIME.

INPUT DATA ARE FROM THE 'ID SET TOTALS' TAPE CREATED BY

THE P1 PROGRAM FOR DLDO 1611 RECEIPT INSP. DATA. (#10).

BY: STEARNS-ROGER, INC.

H.E. MARTIN

190 REM ****

200 PAGE

210 INIT

220 SET KEY

230 DIM C(7,4),T(7),A\$(1),K\$(32),L\$(70),W\$(36),Y\$(69),Z\$(49)

240 PRINT "JDO YOU WANT TO PRINT ID SET TOTALS? (ENTER Y OR N) "

250 INPUT A\$

260 IF A\$="Y" THEN 290

270 PRINT "YOU ARE USING THE WRONG TOTALS PROGRAM"

280 GO TO 1930

290 READ T,K,L\$

300 READ P\$

310 L\$=L\$P\$

320 READ W\$

330 PRINT "INSERT THE INPUT DATA TAPE (ID SET TOTALS) INTO UNIT 4924"

340 PRINT "ENTER THE UNIT NUMBER YOU ARE USING FOR THE DATA TAPE "

350 INPUT U

360 FIND QU:1

370 INPUT QU,13:Z\$

380 S\$=SEG(Z\$,4:2)

390 T\$=SEG(Z\$,8:6)

400 U\$=SEG(T\$,3:2)

410 V\$=SEG(T\$,1:2)

420 L\$=SEG(T\$,5:2)

430 T\$=T\$R0\$

440 T\$=T\$R0\$

450 IF S\$="50" THEN 480

460 PRINT "THIS IS THE WRONG INPUT DATA TAPE"

470 GO TO 1930

480 PRINT "ENTER THE BEGINNING DATE OF THE REPORT PERIOD (DDMMYY): "

490 INPUT B\$

500 L6=LEN(B\$)

510 IF L6=6 THEN 540

520 PRINT "WRONG LENGTH ON BEGINNING DATE - REENTER"

530 GO TO 480

540 U\$=SEG(U\$,3:2)

550 V\$=SEG(U\$,1:2)

560 R\$=SEG(U\$,5:2)

570 B\$=B\$R0\$

580 R\$=R\$R0\$

590 PRINT "ENTER THE ENDING DATE OF THE REPORT PERIOD (DDMMYY): "

600 INPUT C\$

```

610 L6=LEN(C$)
620 IF L6=6 THEN 650
630 PRINT "JWRONG LENGTH ON ENDING DATE - REENTER"
640 GO TO 590
+++1+++
650 U$=SEG(C$,3,2)
660 V$=SEG(C$,1,2)
670 C$=SEG(C$,5,2)
680 C$=C$U$
690 C$=C$V$
700 IF U$<C$ THEN 740
710 PRINT "JENDING DATE MUST BE LATER THAN BEGINNING DATE"
720 PRINT "JWO YOU WANT TO TRY AGAIN? (ENTER Y OR N) "
730 GO TO 1860
+++1+++
740 IF C$<T$ THEN 1350

```

```

750 REM
760 REM ***** PROCESS INPUT DATA TOTALS *****

```

```

770 E$=B$
780 F1=0
+++2+++
790 INPUT G$,L
800 IF L=1 THEN 970
810 INPUT H$,I$,J$
820 I$=SEG(I$,8,6)
830 U$=SEG(I$,3,2)
840 V$=SEG(I$,1,2)
850 I$=SEG(I$,5,2)
860 I$=I$U$
870 I$=I$V$
880 IF I$<E$ THEN 790
890 IF F1=1 THEN 990
900 S$=SEG(Z$,14,56)
910 F1=1
920 E$=C$
930 IF B$<C$ THEN 790
940 IF I$<B$ THEN 1350
950 I$=S$
960 GO TO 1000
+++1+++
970 IF F1=0 THEN 1350
980 I$=C$
+++1+++
990 I$=SEG(Z$,14,56)
1000 R$=S$
1010 FOR J=1 TO 3 STEP 2
1020 K1=1
1030 K2=22
1040 FOR I=1 TO 7
1050 C$=SEG(R$,K1,3)
1060 F$=SEG(R$,K2,5)
1070 C(I,J)=VAL(E$)
1080 C(I,J+1)=VAL(F$)
1090 K1=K1+3
1100 K2=K2+5
1110 NEXT I
1120 IF B$<C$ THEN 1300
1130 R$=I$
1140 NEXT J

```

```

+++1+++
1150 REM
1160 REM ***** TOTALS FOR MORE THAN ONE DAY *****

```



```

1170 FOR I=1 TO 7
1180 C(I,2)=C(I,2)-C(I,1)
1190 IF I=C THEN 1210
1200 C(I,4)=C(I,4)-C(I,3)
1210 C(I,1)=C(I,4)-C(I,2)
1220 C(I,3)=I(I)-C(I,4)
1230 NEXT I
1240 GO TO 1400

1250 REM
1260 REM **** C(I,1) IS TOTAL FOR PERIOD, C(I,4) IS ACCUMULATIVE TOTAL
1270 REM **** C(I,3) IS NO. OF REMAINING SETS
1280 REM
1290 REM ***** TOTALS FOR ONLY ONE DAY *****
1300 FOR I=1 TO 7
1310 C(I,4)=C(I,2)
1320 C(I,3)=I(I)-C(I,4)
1330 NEXT I
1340 GO TO 1400
1350 PRINT "PROGRAM IS UNABLE TO FIND DATE"
1360 PRINT "DO YOU WANT TO TRY AGAIN? (ENTER Y OR N) "
1370 GO TO 1860

1380 REM
1390 REM ***** PROCESS REPORT DATES *****
1400 F=B$
1410 GOSUB 2620
1420 X=F$
1430 F=C$
1440 GOSUB 2620
1450 Y=B$

1460 REM
1470 REM ***** PRINT REPORT *****
1480 A=41
1490 GOSUB 1970
1500 N1=1
1510 FOR I=1 TO 7
1520 E=SEG(L$,N1,10)
1530 FOR J=1 TO 4
1540 GO TO J OF 1550,1680,1550,1550
1550 R=STR$(C(I,J))
1560 R=LEN(R$)
1570 IF R=5 THEN 1640
1580 IF R>5 THEN 1630
1590 FOR K=N1 TO 5
1600 R$=R$+R$
1610 NEXT K
1620 GO TO 1640
1630 R$=SEG(R$,R-4,5)
1640 GO TO J OF 1650,1680,1670,1680
1650 F$=R$
1660 GO TO 1680
1670 H$=R$
1680 NEXT J
1690 PRINT "A: USING *A,10A,5A,BX,10A,5A,BX,10A,5A,IE,F$,E$,R$,E$,H$
1700 K1=N1+10

```

```

1710 NEXT I
1720 GOSUB 2210
1730 IF A=32 THEN 1810
1740 PRINT "JOO YOU WANT A HARD COPY? (ENTER Y OR N) "
1750 INPUT A$
1760 IF A$ < "Y" THEN 1850
1770 PAGE
1780 MOVE 0:100
1790 A=32
1800 GO TO 1490
1810 PRINT CA:26:3
1820 MOVE 0:0
1830 PRINT
1840 PRINT CA:26:0
1850 PRINT "JOO YOU WANT TO PRINT ANOTHER REPORT? (ENTER Y OR N) "
1860 INPUT A$
1870 IF A$ < "Y" THEN 1910
1880 FIND QM:1
1890 INPUT CU:13:2$
1900 GO TO 400
1910 PRINT "JNORMAL END OF PROGRAM"
1920 GO TO 2760
1930 PRINT "JANNN ABNORMAL END OF PROGRAM ***"
1940 GO TO 2760

```

```

1950 REM
1960 REM ***** SUBROUTINE 1 - PRINT PAGE HEADING *****

```

```

1970 IF A=32 THEN 2050
1980 PRINT CA:L
1990 PRINT CA: USING "BA": "DRXTH-SE"
2000 PRINT CA: "JJ"
2010 PRINT CA: USING "39A,S": "MEMORANDUM FOR COLONEL JOHN D. SPENCE, "
2020 PRINT CA: USING "BA": "USATHANA"
2030 PRINT CA: "J"
2040 GO TO 2080
2050 PRINT CA: USING "39A,S": "MEMORANDUM FOR COLONEL JOHN D. SPENCE, "
2060 PRINT CA: USING "BA,12X,BA": "USATHANA", "DRXTH-SE"
2070 PRINT CA:
2080 PRINT CA: USING "35A": "SUBJECT: ID SETS OPERATIONS REPORT"
2090 PRINT CA:
2100 PRINT CA: USING "14A,5X,9A,3A,9A": "REPORT PERIOD: ", X$, " - ", Y$
2110 PRINT CA:
2120 PRINT CA: USING "6X,35A,S": "-----TYPES AND TOTALS OF ID "
2130 PRINT CA: USING "26A": "SETS PROCESSED-----"
2140 PRINT CA: USING "6X,15A,8X,7A,S": "-----PERIOD-----SINCE "
2150 PRINT CA: USING "6A,0X,15A": "STARTUP-", "-----REMAINING-----"
2160 PRINT CA:
2170 RETURN

```

```

2180 REM ***** END OF SUBROUTINE 1 *****
2190 REM
2200 REM ***** SUBROUTINE 2 - PRINT END OF PAGE *****

```

```

2210 N$=" "
2220 H$=" "

```



```

2740 REM ***** END OF SUBROUTINE 3 *****
2750 REM
++2+++ 2760 END
2770 REM
2780 REM ***** T ARRAY (7) - NUMBER OF ID SETS *****
2790 DATA 806,1335,10799,497,94,8166,19697
2800 REM
2810 REM ***** K$ ARRAY (32) *****
2820 DATA 'N941A942N945K951N952K953K954K955'
2830 REM
2840 REM ***** L$ ARRAY (70) *****
2850 DATA 'N941/942 K945 K951/952 K953/954 K955'
2860 DATA 'X-TYPE TOTAL'
2870 REM
2880 REM ***** W$ ARRAY (36) *****
2890 DATA 'JANFEBMARAPRKMAYJUNJULAUGSEPOCTNOVDEC'
2900 REM
2910 REM ***** END OF PROGRAM *****

```

FILE # 4

1 GO TO 100
4 GO TO 2100
8 GO TO 2100

+++++ 100 REM *****
110 REM
120 REM
130 REM
140 REM
150 REM
160 REM
170 REM
180 REM
190 REM
200 REM
210 REM
220 REM *****
230 REM *****
240 REM

TOTALS - D1
VERSION 4 - 5/24/81

THIS PROGRAM KEEPS A RUNNING COUNT OF THE DRUMS
IN THE INVENTORY. INPUT DATA ARE FROM DATA SHEETS
#13 - PROCESS DATA RESIDUE AREA,
#14 - PROCESS DATA, SPRAY DRYER,
#15 - PROCESS DATA, ELECTROSTATIC PRECIPITATOR.
THE DAILY OUTPUT RECORD CONTAINS THE NUMBER OF
EACH TYPE OF DRUM PROCESSED THAT DAY AND THE
CUMULATIVE TOTALS.

BY: STEARNS-ROGER, INC
M E MARTIN

250 PAGE
260 INIT
270 SET KEY
280 DIM C(4,2),M(2),A\$(1),L\$(40),M\$(36),X\$(45),Z\$(27)
290 PRINT "JUG YOU WANT TO UPDATE DRUM TOTALS? (ENTER Y OR N) *"
300 INPUT A\$

310 IF A\$ <> "N" THEN 340
320 PRINT "YOU ARE USING THE WRONG TOTALS PROGRAM"
330 GO TO 2100

340 READ L\$,M\$
350 FOR I=1 TO 4
360 C(I,1)=0
370 NEXT I
380 M\$="0 0 0 0"
390 G\$="RMA51"

400 PRINT "JUG YOU HAVE DATA TO ENTER? (ENTER Y OR N) *"
410 INPUT A\$
420 A\$=1
430 IF A\$ <> "N" THEN 530
440 A\$=0

450 PRINT "ENTER TODAY'S DATE (DDMMYY) *"
460 INPUT Y\$
470 L1=LEN(Y\$)

480 IF L1=6 THEN 510
490 PRINT "THE DATE MUST HAVE 6 CHARACTERS"
500 GO TO 450

510 I\$=G\$1V1
520 GO TO 490
530 N=1
540 N1=13

550 PRINT "JINSERT THE INVENTORY DATA TAPE INTO THE CONSOLE"
560 PRINT "ENTER THE FIRST 3 LETTERS OF THE DAY OF THE WEEK *"
570 INPUT I\$

580 IF C(I,1)=I\$ THEN 610
590 INPUT Z\$1:Z\$
600 INPUT Z\$2:Z\$
610 S\$=SEG(Z\$,4,2)
620 S=VAL(S\$)

```

630 B1=SEG(Z$,8,3)
640 C1=SEG(Z$,8,9)
650 IF S=N1 AND B1=1 THEN 710
660 PRINT "THIS IS THE WRONG INPUT DATA TAPE"
670 PRINT "THIS TAPE IS FOR DATA SHEET 11111 FOR JCS"
680 GO TO 2100

690 REM
700 REM ***** PROCESS INPUT DATA TOTALS *****
+++++ 710 IF TYP(O)=1 THEN 800
720 INPUT Q33:Z4
730 I1=SEG(Z$,12,6)
740 I1=I1+I1
750 GO TO 780
+++++ 760 IF TYP(O)=1 THEN 800
770 INPUT Q33:Z4
780 C(N,1)=C(N,1)+1
790 GO TO 750
+++++ 800 IF N=3 THEN 840
810 N=N+1
820 N1=N+1
830 GO TO 590
+++++ 840 FOR I=1 TO 3
850 C(4,I)=C(4,I)+C(I,1)
860 NEXT I

870 REM
880 REM ***** PREPARE OUTPUT TAPE *****
+++++ 890 PRINT "JJINSERT OUTPUT DATA TAPE (KRM TOTALS) INTO UNIT 4924"
900 PRINT "ENTER THE UNIT NUMBER YOU ARE USING FOR THE OUTPUT TAPE"
910 INPUT U
920 PRINT "DO YOU NEED TO INITIALIZE THIS TAPE? (ENTER Y OR N)"
930 INPUT A1
940 IF A1=0 THEN 1260
950 IF A1=1 THEN 1260
960 PRINT "HOW MUCH SPACE DO YOU NEED?"
970 INPUT F
980 MARK Q0:1,F
990 FING Q0:1
1000 PRINT "DO YOU NEED TO ENTER CUMULATIVE TOTALS? (ENTER Y OR N)"
1010 INPUT A1
1020 IF A1=1 THEN 1200
1030 PRINT "J"
1040 X1=148H
1050 FOR I=1 TO 4
1060 PRINT "ENTER CUMULATIVE TOTAL NO. 1111"
1070 INPUT U1
1080 GELLINGU1
1090 IF A1=5 THEN 1130
1100 FOR J=1 TO 5
1110 U1=U1+X01
1120 NEXT J
1130 X1=X1+X01
1140 NEXT I
1150 GELLINGU1
1160 IF A1=5 THEN 1220
1170 PRINT "CUMULATIVE TOTALS CANNOT HAVE MORE THAN 5 DIGITS"
1180 PRINT "REENTER DATA FROM THE BEGINNING"

```

```

1190 GO TO 1030
1200 X$=151M$
1210 X$=X$ 0 0 0 0
1220 PRINT @0,12:X$
1230 GO TO 1300
1240 INPUT @0,6:F
1250 IF F=1 THEN 1300
1260 INPUT @0,13:Y$
1270 GO TO 1240

1280 REM
1290 REM ***** UPDATE WITH A ZERO RECORD *****
1300 IF A6=1 THEN 1370
1310 X$=REP(V$,8,6)
1320 X$=REP(M$,14,12)
1330 PRINT @0,12:Y$
1340 GO TO 1650

1350 REM
1360 REM ***** UPDATE LAST RECORD *****
1370 N2=26
1380 FOR I=1 TO 4
1390 F$=SEG(X$,N2,5)
1400 C(I,2)=VAL(F$)+C(I,1)

1410 REM *** C(I,1) IS DAILY TOTAL C(I,2) IS ACCUMULATIVE TOTAL

1420 N2=N2+5
1430 NEXT I
1440 X$=1$
1450 M(1)=3
1460 M(2)=5
1470 FOR N=1 TO 2
1480 M1=M(N)
1490 FOR I=1 TO 4
1500 R$=STR(C(I,N))
1510 R=LEN(R$)
1520 IF R=M1 THEN 1590
1530 IF R=M1 THEN 1590
1540 FOR J=R+1 TO M1
1550 R$= " "R$
1560 NEXT J
1570 GO TO 1590
1580 R$=SEG(R$,R-M1+1,M1)
1590 X$=X$R$
1600 NEXT I
1610 NEXT N
1620 PRINT @0,12:Y$

1630 REM
1640 REM ***** PROCESS DATE *****
1650 F$=SEG(I$,8,2)
1660 F$=SEG(I$,10,2)
1670 H$=SEG(I$,12,2)
1680 F=VAL(F$)
1690 F=34F-2
1700 F$=SEG(W$,F,3)

```

```

1710 D$=
1720 D$=REP(E$,1,2)
1730 D$=REP(F$,4,3)
1740 D$=REP(H$,8,2)

1750 REM
1760 REM ***** PRINT DAILY REPORT *****

1770 A=41
1780 GOSUB 2140
1790 K1=1
1800 N2=14
1810 N3=26
1820 N4=1
1830 FOR I=1 TO 4
1840 E$=SEG(L$,K1,15)
1850 F$=SEG(X$,K2,3)
1860 H$=SEG(X$,K3,5)
1870 PRINT BA: USING "9X,15A,3A,13X,15A,5A,IE$,F$,E$,H$"
1880 N1=N1+15
1890 N2=N2+3
1900 N3=N3+5
1910 IF I<>4 THEN 1930
1920 PRINT
1930 NEXT I

1940 GOSUB 2380
1950 IF A=32 THEN 2030
1960 PRINT "JOU YOU WANT A HARD COPY? (ENTER Y OR N) "
1970 INPUT A$
1980 IF A$<>"Y" THEN 2070
1990 PAGE
2000 MOVE 0,100
2010 A=32
2020 GO TO 1780
2030 PRINT BA:26:3
2040 MOVE 0,0
2050 PRINT
2060 PRINT BA:26:0
2070 PRINT "JNORMAL END OF PROGRAM"
2080 PRINT Q0:2:
2090 GO TO 2710
2100 PRINT "J*** ABNORMAL END OF PROGRAM ****"
2110 GO TO 2710

2120 REM
2130 REM ***** SUBROUTINE 1 - PRINT PAGE HEADING *****

1770 A=41
1780 GOSUB 2140
1790 K1=1
1800 N2=14
1810 N3=26
1820 N4=1
1830 FOR I=1 TO 4
1840 E$=SEG(L$,K1,15)
1850 F$=SEG(X$,K2,3)
1860 H$=SEG(X$,K3,5)
1870 PRINT BA: USING "9X,15A,3A,13X,15A,5A,IE$,F$,E$,H$"
1880 N1=N1+15
1890 N2=N2+3
1900 N3=N3+5
1910 IF I<>4 THEN 1930
1920 PRINT
1930 NEXT I

1940 GOSUB 2380
1950 IF A=32 THEN 2030
1960 PRINT "JOU YOU WANT A HARD COPY? (ENTER Y OR N) "
1970 INPUT A$
1980 IF A$<>"Y" THEN 2070
1990 PAGE
2000 MOVE 0,100
2010 A=32
2020 GO TO 1780
2030 PRINT BA:26:3
2040 MOVE 0,0
2050 PRINT
2060 PRINT BA:26:0
2070 PRINT "JNORMAL END OF PROGRAM"
2080 PRINT Q0:2:
2090 GO TO 2710
2100 PRINT "J*** ABNORMAL END OF PROGRAM ****"
2110 GO TO 2710

2120 REM
2130 REM ***** SUBROUTINE 1 - PRINT PAGE HEADING *****

2140 IF A=32 THEN 2220
2150 PRINT BA:"L"
2160 PRINT BA: USING "9A,49X,6A,9A": "DRXTH-SE", "DATE: ", D$
2170 PRINT BA: "JJ"
2180 PRINT BA: USING "39A,S": "MEMORANDUM FOR COLONEL JOHN D. SPENCE, "
2190 PRINT BA: USING "9A": "USATHAMA"
2200 PRINT BA: "J"
2210 GO TO 2220
2220 PRINT BA: USING "9A,49X,6A,9A": "DRXTH-SE", "DATE: ", D$
2230 PRINT BA:
2240 PRINT BA: USING "39A,S": "MEMORANDUM FOR COLONEL JOHN D. SPENCE, "

```



```

2250 PRINT QA: USING 'BA':USATHAMA
2260 PRINT QA:
2270 PRINT QA: USING '41A':SUBJECT: ID SETS DAILY OPERATIONS REPORT
2280 PRINT QA:
2290 PRINT QA: USING '9X,28A,S':TYPES AND TOTALS OF
2300 PRINT QA: USING '23A':DRUMS PROCESSED
2310 PRINT QA: USING '9X,10A,13X,S':TODAY
2320 PRINT QA: USING '20A':SINCE STARTUP
2330 PRINT QA:
2340 RETURN

```

```

2350 REM ***** END OF SUBROUTINE 1 *****
2360 REM
2370 REM ***** SUBROUTINE 2 - PRINT END OF PAGE *****

```

```

---1---
2380 N$=

```

```

2390 M$=
2400 IF A=32 THEN 2440

```

```

2410 N=3
2420 PRINT QA:'JJ'
2430 GO TO 2460

```

```

+++1+++
2440 N=2

```

```

+++1+++
2450 PRINT QA:'OPERATIONAL REMARKS:'

```

```

2460 PRINT QA:
2470 PRINT QA:
2480 PRINT QA: USING '2X,25A,S':1. PROBLEMS/SOLUTIONS:

```

```

2490 PRINT QA: USING '30A,15A:IN$,M$
2500 FOR I=1 TO 3

```

```

2510 PRINT QA:
2520 PRINT QA: USING 2530:N$,N$,

```

```

2530 IMAGE 2X,30A,30A,10A
2540 NEXT I

```

```

2550 PRINT QA:
2560 PRINT QA: USING '2X,37A,S':2. EXPOSURES/EMISSIONS/EXPLOSIONS:

```

```

2570 PRINT QA: USING '30A,3A:IN$,M$
2580 FOR I=1 TO N

```

```

2590 PRINT QA:
2600 PRINT QA: USING 2530:N$,N$,

```

```

2610 NEXT I
2620 IF A=32 THEN 2650

```

```

2630 PRINT QA:'JJ'
2640 GO TO 2660

```

```

+++1+++
2650 PRINT QA:'JJ'

```

```

+++1+++
2660 PRINT QA: USING '2X,15A,1A,12X,15A,12X,15A:IN$,M$,M$
2670 PRINT QA: USING 2680:'SUBMITTED BY',REVIEWED BY',APPROVED BY'

```

```

2680 IMAGE 4X,12A,16X,11A,16X,11A
2690 RETURN

```

```

2700 REM ***** END OF SUBROUTINE 2 *****

```

```

+++2+++
2710 END

```

```

2720 REM

```

```

2730 REM ***** L$ ARRAY (60) *****

```

```

2740 DATA 'RESIDUE AREA' SPRAY DRYER ELEC. PRECIP. TOTAL

```

```

2750 REM

```

2760 REM ***** W\$ ARRAY (36) *****

2770 DATA *JANFEBMARAPR MAY JUN JUL AUG SEPT OCT NOV DEC*

2780 REM

2790 REM

2800 REM ***** END OF PROGRAM *****

```

1 GO TO 100
4 FIND GU:1
5 INPUT GU,131Z$
6 GO TO 450
8 GO TO 1860

```

```

++++1+++
100 REM ****

```

```

TOTALS - D2

```

```

****

```

```

VERSION 4 - 5/12/81
THIS PROGRAM PRINTS AN OPERATIONS REPORT OF TOTAL
DRUMS IN THE INVENTORY FOR A SPECIFIED PERIOD OF TIME.
INPUT DATA ARE FROM THE 'DRUM TOTALS' TAPE CREATED BY
THE D1 PROGRAM FOR DATA SHEETS 13, 14, AND 15.

```

```

BY: STEARNS-ROGER, INC.
H.E. MARTIN

```

```

170 REM
180 REM
190 REM ****

```

```

****

```

```

200 PAGE
210 INIT
220 SET KEY
230 DIM C(4,4),A$(1),L$(60),W$(36),Y$(45),Z$(45)
240 PRINT "JDO YOU WANT TO PRINT DRUM TOTALS? (ENTER Y OR N) "
250 INPUT A$

```

```

260 IF A$="Y" THEN 290

```

```

270 PRINT "YOU ARE USING THE WRONG TOTALS PROGRAM"

```

```

280 GO TO 1860

```

```

++++1+++

```

```

290 READ L$,W$

```

```

300 PRINT "INSERT THE INPUT DATA TAPE (DRUM TOTALS) INTO UNIT 4924"

```

```

310 PRINT "ENTER THE UNIT NUMBER YOU ARE USING FOR THE DATA TAPE "

```

```

320 INPUT U

```

```

330 FIND GU:1

```

```

340 INPUT GU,131Z$

```

```

350 S$=SEG(Z$,4,2)

```

```

360 T$=SEG(Z$,0,6)

```

```

370 U$=SEG(T$,3,2)

```

```

380 V$=SEG(T$,1,2)

```

```

390 T$=SEG(T$,5,2)

```

```

400 T$=T$XU$

```

```

410 T$=T$XU$

```

```

420 IF S$="51" THEN 450

```

```

430 PRINT "THIS IS THE WRONG INPUT DATA TAPE"

```

```

440 GO TO 1860

```

```

++++1+++

```

```

450 PRINT "ENTER THE BEGINNING DATE OF THE REPORT PERIOD (DDHHYY): "

```

```

460 INPUT B$

```

```

470 L6=LEN(B$)

```

```

480 IF L6=6 THEN 510

```

```

490 PRINT "JURONG LENGTH ON BEGINNING DATE - REENTER"

```

```

500 GO TO 450

```

```

++++1+++

```

```

510 U$=SEG(B$,3,2)

```

```

520 V$=SEG(B$,1,2)

```

```

530 S$=SEG(B$,5,2)

```

```

540 B$=B$XU$

```

```

550 B$=B$XU$

```

```

++++1+++

```

```

560 PRINT "ENTER THE ENDING DATE OF THE REPORT PERIOD (DDHHYY): "

```

```

570 INPUT C$

```

```

580 L6=LEN(C$)

```

```

590 IF L6=6 THEN 620

```

```

600 PRINT "JURONG LENGTH ON ENDING DATE - REENTER"

```

```

610 GO TO 560
++1111+ 620 U$=SEG(C$,3,2)
630 V$=SEG(C$,1,2)
640 C$=SEG(C$,5,2)
650 C$=C$U$
660 C$=C$V$
670 IF B$=C$ THEN 710
680 PRINT "ENDING DATE MUST BE LATER THAN BEGINNING DATE."
690 PRINT "JJD YOU WANT TO TRY AGAIN? (ENTER Y OR N) ."
700 GO TO 1790
++1111+ 710 IF C$<T$ THEN 1310

720 REM
730 REM ***** PROCESS INPUT DATA TOTALS *****
740 E$=H$
750 F1=0
++1211+ 760 INPUT @U,4:L
770 IF L=1 THEN 940
780 INPUT @U,13:Z$
790 I$=SEG(Z$,8,6)
800 U$=SEG(I$,3,2)
810 V$=SEG(I$,1,2)
820 I$=SEG(I$,5,2)
830 I$=I$U$
840 I$=I$V$
850 IF I$<E$ THEN 760
860 IF F1=1 THEN 960
870 S$=SEG(Z$,14,32)
880 F1=1
890 E$=C$
900 IF B$<C$ THEN 760
910 IF I$<H$ THEN 1310
920 T4=S$
930 GO TO 970
++1111+ 940 IF F1=0 THEN 1310
950 I$=C$
++1111+ 960 I$=SEG(Z$,14,32)
++1111+ 970 K1=S$
980 FOR J=1 TO 3 STEP 2
990 K1=1
1000 K2=13
1010 FOR I=1 TO 4
1020 E$=SEG(R$,K1,3)
1030 F$=SEG(R$,K2,5)
1040 C(I,J)=VAL(E$)
1050 C(I,J+1)=VAL(F$)
1060 K1=K1+3
1070 K2=K2+5
1080 NEXT I
1090 REM ** BEGIN DATE: C(I,1) IS DAILY TOTAL; C(I,2) IS ACCUM. TOTAL
1100 REM ** END DATE: C(I,3) IS DAILY TOTAL; C(I,4) IS ACCUM. TOTAL
1110 IF H$=C$ THEN 1270
1120 K$=16
1130 NEXT J
1140 REM
1150 REM ***** TOTALS FOR MORE THAN ONE DAY *****

```

```

1160 FOR I=1 TO 4
1170 C(I,2)=C(I,2)+C(I,1)
1180 IF I=C THEN 1200
1190 C(I,4)=C(I,4)+C(I,3)
1200 C(I,1)=C(I,4)+C(I,2)
1210 NEXT I
1220 GO TO 1360

1230 REM
1240 REM *** C(I,1) IS TOTAL FOR PERIOD C(I,4) IS ACCUMULATIVE TOTAL
1250 REM
1260 REM ***** TOTALS FOR ONLY ONE DAY *****
1270 FOR I=1 TO 4
1280 C(I,4)=C(I,2)
1290 NEXT I
1300 GO TO 1360

1310 PRINT "PROGRAM IS UNABLE TO FIND DATE"
1320 PRINT "JDO YOU WANT TO TRY AGAIN? (ENTER Y OR N) "
1330 GO TO 1790

1340 REM
1350 REM ***** PROCESS REPORT DATES *****
1360 P$=B$
1370 GOSUB 2440
1380 X$=D$
1390 F$=C$
1400 GOSUB 2440
1410 Y$=0$

1420 REM
1430 REM ***** PRINT REPORT *****
1440 A=41
1450 GOSUB 1900
1460 K1=1
1470 FOR I=1 TO 4
1480 E$=SEG(I$,K1,15)
1490 FOR J=1 TO 4 STEP 3
1500 R$=STR$(C(I,J))
1510 R=LEN(R$)
1520 IF R=5 THEN 1590
1530 IF R>5 THEN 1580
1540 FOR N=R+1 TO 5
1550 R$=" "R$
1560 NEXT N
1570 GO TO 1590
1580 R$=SEG(R$,R-4,5)
1590 IF J=4 THEN 1620
1600 F$=R$
1610 NEXT J
1620 PRINT @: USING "9X,15A,5A,11X,15A,5A,1E$,F$,E$,R$
1630 N1=N1+15
1640 NEXT I
1650 GOSUB 2140
1660 IF A=32 THEN 1740
1670 PRINT "JDO YOU WANT A HARD COPY? (ENTER Y OR N) "
1680 INPUT A$

```

```

1690 IF A<>'Y' THEN 1780
1700 PAGE
1710 MOVE 0,100
1720 A=32
1730 GO TO 1450
1740 PRINT @A,2613
1750 MOVE 0,0
1760 PRINT
1770 PRINT @A,2610
1780 PRINT 'JED YOU WANT TO PRINT ANOTHER REPORT? (ENTER Y OR N)'
1790 INPUT A$
1800 IF A<>'Y' THEN 1840
1810 FIND @0,1
1820 INPUT @0,131Z$
1830 GO TO 450
1840 PRINT 'JNORMAL END OF PROGRAM'
1850 GO TO 2570
1860 PRINT 'J*** ABNORMAL END OF PROGRAM ****'
1870 GO TO 2570

1880 REM
1890 REM ***** SUBROUTINE 1 - PRINT PAGE HEADING *****

```

```

1900 IF A=32 THEN 1980
1910 PRINT @A,'L'
1920 PRINT @A: USING '8A','DRXTH-SE'
1930 PRINT @A,'JJ'
1940 PRINT @A: USING '39A,S':'MEMORANDUM FOR COLONEL JOHN D. SPENCE,'
1950 PRINT @A: USING '8A':'USATHAMA'
1960 PRINT @A,'J'
1970 GO TO 2010
1980 PRINT @A: USING '39A,S':'MEMORANDUM FOR COLONEL JOHN D. SPENCE,'
1990 PRINT @A: USING '8A,12X,8A':'USATHAMA','DRXTH-SE'
2000 PRINT @A:
2010 PRINT @A: USING '35A','SUBJECT: ID SETS OPERATIONS REPORT'
2020 PRINT @A:
2030 PRINT @A: USING '14A,5X,9A,3A,9A':'REPORT PERIOD:',X$,' - ',Y$
2040 PRINT @A:
2050 PRINT @A: USING '9X,28A,S':'-----TYPES AND TOTALS OF'
2060 PRINT @A: USING '2JA':'DRUMS PROCESSED-----'
2070 PRINT @A: USING '9X,20A,11X,S':'-----PERIOD-----'
2080 PRINT @A: USING '20A':'-----SINCE STARTUP-----'
2090 PRINT @A:
2100 RETURN
2110 REM ***** END OF SUBROUTINE 1 *****
2120 REM
2130 REM ***** SUBROUTINE 2 - PRINT END OF PAGE *****

```

```

2140 REM
2150 REM
2160 PRINT @A:
2170 IF A=32 THEN 2200
2180 H=3
2190 GO TO 2210
2200 H=2

```

```

++111++ 2210 PRINT GAI'OPERATIONAL REMARKS!
2220 PRINT GAI
2230 PRINT GAI USING '2X,25A,S':1, PROBLEMS/SOLUTIONS!
2240 PRINT GAI USING '30A,15A':N,M$
2250 FOR I=1 TO 3
2260 PRINT GAI
2270 PRINT GAI USING 2280:IN$,N$, '-----'
2280 IMAGE 2X,30A,30A,10A
2290 NEXT I
2300 PRINT GAI
2310 PRINT GAI USING '2X,37A,S':2, EXPOSURES/EMISSIONS/EXPLOSIONS!
2320 PRINT GAI USING '30A,3A':N$, '-----'
2330 FOR I=1 TO N
2340 PRINT GAI
2350 PRINT GAI USING 2280:IN$,N$, '-----'
2360 NEXT I
2370 PRINT GAI:'JJJ'
2380 PRINT GAI USING '2X,15A,1A,12X,15A,12X,15A':M$, 'M$,M$
2390 PRINT GAI USING 2400:'SUBMITTED BY','REVIEWED BY','APPROVED BY'
2400 IMAGE 4X,12A,16X,11A,16X,11A
2410 RETURN

2420 REM ***** END OF SUBROUTINE 2 *****
2430 REM

-----2----- 2440 REM ***** SUBROUTINE 3 - CONVERT DATE *****
2450 E$=SEG(P$,5,2)
2460 F$=SEG(P$,3,2)
2470 H$=SEG(P$,1,2)
2480 F=VAL(F$)
2490 F=3*F-2
2500 F$=SEG(W$,F,3)
2510 H$=
2520 H$=REP(F$,1,2)
2530 H$=REP(F$,4,3)
2540 H$=REP(H$,8,2)
2550 RETURN

2560 REM ***** END OF SUBROUTINE 3 *****
++12++ 2570 END

2580 REM
2590 REM ***** L$ ARRAY (60) *****
2600 DATA 'RESIDUE AREA SPRAY DRYER ELEC. PRECIP. TOTAL
2610 REM
2620 REM ***** W$ ARRAY (36) *****
2630 DATA 'JAHFERHARAPRAYJUNJULAUOSEPOCTNOVDEC'
2640 REM
2650 REM ***** END OF PROGRAM *****

```

1 GO TO 100
4 GO TO 690
8 GO TO 690

+++++ 100 REM ***

TOTALS - T1

VERSION 4 - 5/20/81

THIS PROGRAM KEEPS A RECORD OF ALL DOWNTIME DATA
ON A 'DOWNTIME TOTALS' TAPE. THIS TAPE WILL BE
UPDATED DAILY.

BY: STEARNS-ROGER, INC.
H.E. MARTIN

110 REM

120 REM

130 REM

140 REM

150 REM

160 REM

170 REM

180 PAGE

190 INIT

200 SET KEY

210 DIM A\$(1),X\$(97),Z\$(101)

220 PRINT "JDO YOU WANT TO UPDATE DOWNTIME TOTALS? (ENTER Y OR N) "

230 INPUT A\$

240 IF A\$="Y" THEN 270

250 PRINT "JYOU ARE USING THE WRONG PROGRAM"

260 GO TO 690

270 G\$="RMA52"

280 PRINT "JINSERT THE DOWNTIME DATA TAPE INTO THE CONSOLE"

290 PRINT "JENTER THE FIRST 3 LETTERS OF THE DAY OF THE WEEK"

300 INPUT T\$

310 T\$=SEG(T\$,1,3)

320 FIND 1

330 INPUT Q33:Z\$

340 S1=SEG(Z\$,4,2)

350 R1=SEG(Z\$,8,3)

360 C1=SEG(Z\$,8,9)

370 IF S1="16" AND R1="T" THEN 430

380 PRINT "JTHIS IS THE WRONG INPUT DATA TAPE"

390 PRINT "JTHIS TAPE IS FOR DATA SHEET #19\$ FOR JC\$"

400 GO TO 690

410 REM

420 REM ***** PREPARE OUTPUT TAPE *****

430 PRINT "JINSERT OUTPUT DATA TAPE (DOWNTIME TOTALS) INTO UNIT 4924"

440 PRINT "JENTER THE UNIT NUMBER YOU ARE USING FOR THE OUTPUT TAPE"

450 INPUT U

460 PRINT "JDO YOU NEED TO INITIALIZE THIS TAPE? (ENTER Y OR N) "

470 INPUT A1

480 FIND 60:1

490 IF A1="Y" THEN 560

500 MARK 60:1,300000

510 FIND 60:1

520 GO TO 600

530 INPUT 60:4:F

540 IF F="1" THEN 600

550 INPUT 60:13:Z\$

560 GO TO 530

570 REM ***** ADD NEW DOWNTIME RECORDS TO OUTPUT TAPE *****

580 REM

590 REM *****

1113111 600 IF YP(0)-1 THEN 660

610 IN=UT P33:Zs

620 Zs=HEI ("1.1.11)

630 Xs=G3:Zs

640 PRINT BU.12:XS

650 GO TO 600

1111111 670 PRINT "JHONMAL END OF PROGRAM"

670 PRINT BU.2:

680 GO TO 700

1114111 690 PRINT "J*** ABNORMAL END OF PROGRAM ***"

1111111 700 END

710 REM ***** END OF PROGRAM *****

FILE # 7

1 GO TO 100
4 FIND QUIT
5 INPUT QUIT
6 GO TO 590
8 GO TO 2990

+++++ 100 REM ****
110 REM
120 REM
130 REM
140 REM
150 REM
160 REM
170 REM
180 REM ****
TOTALS - T2
VERSION 5 - 2/4/82
THIS PROGRAM PRINTS VARIOUS REPORTS OF DOWNTIME
DATA ACCUMULATED OVER ANY PERIOD OF TIME.
INPUT DATA ARE FROM THE 'DOWNTIME TOTALS' TAPE
CREATED BY THE T1 PROGRAM.

BY: STEAKS-ROGER, INC.
M.E. MARTIN

190 PAGE
200 INIT
210 SET KEY
220 DIM M(26,2),N(370),N(99,2),N(840),H(500),S(500)
230 DIM A\$(1),M\$(36),X\$(9),Y\$(97),Z\$(97)
240 PRINT "JGO YOU WANT TO PRINT DOWNTIME REPORTS ? (ENTER Y OR N) :"
250 INPUT A\$
260 IF A\$="Y" THEN 290
270 PRINT "JYOU ARE USING THE WRONG TOTALS PROGRAM"
280 GO TO 2990
290 READ M

+++++ 300 READ M\$
310 FOR I=1 TO 6
320 READ Y\$
330 M=M\$Y\$
340 NEXT I
350 PRINT Y\$
360 READ N
370 READ M\$
380 FOR I=1 TO 15
390 READ Y\$
400 M=M\$Y\$
410 NEXT I
420 PRINT Y\$
430 READ M\$
440 PRINT "JINSERT THE INPUT DATA TAPE (DOWNTIME TOTALS) INTO UNIT 4924"
450 PRINT "JENTER THE UNIT NUMBER YOU ARE USING FOR THE DATA TAPE :"
460 INPUT U
470 FIND QUIT
480 INPUT QUIT
490 IF QUIT(4,2)
500 IF QUIT(4,2)
510 IF QUIT(4,2)
520 IF QUIT(4,2)
530 IF QUIT(4,2)
540 IF QUIT(4,2)
550 IF QUIT(4,2)
560 IF QUIT(4,2)
570 IF QUIT(4,2)
580 IF QUIT(4,2)
590 PRINT "JTHIS IS THE WRONG INPUT DATA TAPE"
600 GO TO 2990
610 PRINT "JCHECK THE BEGINNING DATE OF THE REPORT PERIOD (DDMMYY) :"
620 INPUT DD,MM,YY

```

610 L6=LEN(B*)
620 IF L6=6 THEN 650
630 PRINT "JUNKING LENGTH ON BEGINNING DATE - REENTER"
640 GO TO 590
++1+++
650 V1=SEG(B*,1,2)
660 V2=SEG(B*,3,2)
670 B4=SEG(B*,5,2)
680 B4=B*V1V2
690 B4=B4V1
++1+++
700 PRINT "ENTER THE ENDING DATE OF THE REPORT PERIOD (DDMMYY): "
710 INPUT C$
720 L6=LEN(C$)
730 IF L6=6 THEN 760
740 PRINT "JUNKING LENGTH ON ENDING DATE - REENTER"
750 GO TO 700
++1+++
760 V3=SEG(C*,1,2)
770 V4=SEG(C*,3,2)
780 C4=SEG(C*,5,2)
790 C4=C*V3V4
800 C4=C4V3
810 IF B4=C4 THEN 850
820 PRINT "ENDING DATE MUST BE LATER THAN BEGINNING DATE"
830 PRINT "JUNO YOU WANT TO TRY AGAIN? (ENTER Y OR N) "
840 GO TO 2890
++1+++
850 IF C4=218 THEN 910
++3+++
860 PRINT "PROGRAM IS UNABLE TO FIND DATE"
870 PRINT "JUNO YOU WANT TO TRY AGAIN? (ENTER Y OR N) "
880 GO TO 2890

```

***** REPORT DIRECTORY *****

```

900 REM *****
910 PAGE
920 PRINT " DIRECTORY FOR DOWNTIME REPORTS"
930 PRINT "JJ KEY PROGRAM"
940 PRINT "-----"
950 PRINT "J 1 ALL DOWNTIME LISTED BY SUBSYSTEM"
960 PRINT "J 2 CHARGEABLE DOWNTIME LISTED BY SUBSYSTEM"
970 PRINT "J 3 NON-CHARGEABLE DOWNTIME LISTED BY SUBSYSTEM"
980 PRINT "J 4 ALL DOWNTIME TOTALLED BY SUBSYSTEM"
990 PRINT "J 5 DOWNTIME LISTED BY PRIMARY COMPONENT"
1000 REM

```

```

1010 PRINT "JJJ ENTER KEY FROM THE ABOVE LIST: "
1020 INPUT K
1030 IF K=6 THEN 1080
1040 PRINT "INVALID KEY NUMBER - REENTER: "
1050 GO TO 1020
++1+++

```

***** PROCESS REPORT DATES *****

```

1060 REM *****
1070 REM *****
1080 F5=B*
1090 G5=J*
1100 A5=J*
1110 F4=C*
1120 G5=J*
1130 Y4=J*
1140 J4=J*

```


1690 GO TO 2990

1700 REM ***** PREPARE REPORT #4 *****

++11++ 1710 FOR I=1 TO 26

1720 S(I)=1

1730 H(I)=0

1740 NEXT I

1750 S(26)=99

++11++ 1760 U=SEG(Z*,8,2)

1770 U=SEG(Z*,10,2)

1780 I=SEG(Z*,12,2)

1790 I=I*100

1800 I=I*100

1810 IF I<84 THEN 1930

1820 IF I<84 THEN 1970

1830 R=SEG(Z*,37,4)

1840 R=VAL(R)/100

1850 IF R=0 THEN 1930

1860 J=J+1

1870 K=SEG(Z*,23,2)

1880 I=VAL(R)

1890 IF I<99 THEN 1910

1900 I=26

++11++ 1910 H(I)=H(I)+R

1920 I=I+R

++12++ 1930 INPUT QU,61L

1940 IF L=1 THEN 1970

1950 INPUT QU,13,Z*

1960 GO TO 1760

++12++ 1970 IF J=0 THEN 860

1980 J=26

1990 GO TO 2250

2000 REM ***** PREPARE REPORT #5 *****

++11++ 2010 J=- PRIMARY COMPONENT

++11++ 2020 V=SEG(Z*,8,2)

2030 U=SEG(Z*,10,2)

2040 I=SEG(Z*,12,2)

2050 I=I*100

2060 I=I*100

2070 IF I<84 THEN 2190

2080 IF I<84 THEN 2230

2090 R=SEG(Z*,37,4)

2100 R=VAL(R)/100

2110 IF R=0 THEN 2190

2120 J=J+1

2130 IF J>500 THEN 1680

2140 H(J)=R

2150 I=I+R

2160 K=SEG(Z*,25,2)

2170 R=VAL(R)

2180 S(J)=R

++12++ 2190 INPUT QU,61L

2200 IF L=1 THEN 2230

2210 INPUT QU,13,Z*

2220 GO TO 2020

++12++ 2230 IF J=0 THEN 860

```

2240 REM ***** PRINT REPORT *****
++2+++ 2250 A=41
++1+++ 2260 J3=5/
++1+++ 2270 PRINT QA:L SUBJECT: DOWNTIME REPORT NUMBER *JK
++3+++ 2280 GO TO N OF 2290,2290,2310,2330
++1+++ 2290 PRINT QA: "JH3:" DOWNTIME LISTED BY SUBSYSTEM*
2300 GO TO 2340
++1+++ 2310 PRINT QA: ALL DOWNTIME TOTALLED BY SUBSYSTEM*
++1+++ 2320 GO TO 2340
++1+++ 2330 PRINT QA: LISTED BY PRIMARY COMPONENT*
++2+++ 2340 PRINT QA:J REPORT PERIOD: *JX3J* - *JY3
2350 N=SEG(JA,1,9)
2360 PRINT QA:
2370 PRINT QA: USING *10X,9A,18X,5A,7X,7A*IK*,*HOURS*,*PERCENT*
2380 N=SEG(JA,10,9)
2390 PRINT QA: USING *10X,9A,16X,8A,5X,8A*IK*,*DOWNTIME*,*DOWNTIME*
2400 PRINT QA:
2410 J1=1
2420 J2=J3-B
2430 IF J2<J THEN 2450
++1+++ 2440 J2=J
++1+++ 2450 FOR I=J1 TO J2
2460 P=100H(I)/T
2470 S1=S(I)
2480 IF N=5 THEN 2520
2490 IF S1<99 THEN 2540
2500 S1=25
2510 GO TO 2540
++1+++ 2520 K=SEG(N4,N(S1,1),N(S1,2))
2530 GO TO 2550
++2+++ 2540 K=SEG(M4,N(S1,1),M(S1,2))
++1+++ 2550 R1=LEN(K4)
2560 FOR I1=R1+1 TO 20
2570 K1=K4+I1
2580 NEXT I1
2590 PRINT QA: USING *6X,2D,2X,21A,3X,5D,8X,3D*IS(I),R4,H(I),P
2600 NEXT I
2610 IF J2>J THEN 2660
2620 PRINT QA:
2630 PRINT QA: USING *10X,20A,4X,5D,2D*ITOTAL HOURS DOWNTIME*,T
2640 IF A=41 THEN 2770
2650 GO TO 2840
++1+++ 2660 IF A=41 THEN 2710
2670 PRINT QA,26:3
2680 MOVE 0,0
2690 PRINT
++1+++ 2700 PRINT QA,26:0
2710 J1=J3+1
2720 J2=J3
2730 PRINT QA:L*
2740 GO TO 2430
2750 REM
2760 REM ***** END OF REPORT *****
++1+++ 2770 PRINT "DO YOU WANT A HARD COPY? (ENTER Y OR N) *J
2780 END OF AS
2790 IF A=41 THEN 2800
2800 MOVE 0,100

```

```

2010 A=32
2020 J3=53
2030 GO TO 2270
2040 PRINT OA:26:3
2050 MOVE 0.0
2060 PRINT
2070 PRINT OA:26:10
2080 PRINT "DO YOU WANT TO PRINT ANOTHER REPORT? (ENTER Y OR N) "
2090 INPUT A$
2100 IF A$="Y" THEN 2970
2110 FIND CUI1
2120 INPUT BU:13:Z4
2130 PRINT "IS THE BEGINNING AND ENDING DATES? (ENTER Y OR N) "
2140 INPUT A$
2150 IF A$="N" THEN 590
2160 GO TO 910
2170 PRINT "JOURNAL END OF PROGRAM"
2180 GO TO 3000
2190 PRINT "J*** ABNORMAL END OF PROGRAM ***"
2200 END

3010 REM
3020 REM ***** H ARRAY (26,2) *****
3030 DATA 1,18,20,11,32,13,45,20,66,8,75,13,89,5,94,15,110,4,115,20
3040 DATA 142,9,151,12,164,13,178,13,192,12,204,15,220,6,227,11
3050 DATA 239,20,261,9,271,12,284,8,293,16,309,17,327,17,352,14
3060 REM
3070 REM ***** H$ ARRAY (370) - SUBSYSTEMS *****
3080 DATA "POWER DISTRIBUTION-SERVICE AIR-POTABLE WATER"
3090 DATA "STEAM AND CONDENSATE-FUEL OIL-PROCESS WASTE-DOORS"
3100 DATA "FIRE PROTECTION-HVAC-ELECTROSTATIC PRECIP-----SCRUBBERS"
3110 DATA "CONTROL ROOM-DEACT FURNACE-DECON FURNACE-AFTER BURNER"
3120 DATA "EMERGENCY POWER-QUENCH-SFRAY URVER-RECEIVING & HANDLING--"
3130 DATA "GLOVE BOX-DECON MODULE-BOX FEED-RESIDUE HANDLING"
3140 DATA "SET MOVEMENT(TSY)-ENVIRO MONITORING-----ADMINISTRATIVE"
3150 REM
3160 REM ***** N ARRAY (99,2) *****
3170 DATA 1,15,17,5,23,4,28,5,34,4,39,4,44,5,50,5,55,8,64,7,72,8
3180 DATA 81,14,96,5,102,7,109,4,114,15,130,6,137,6,144,6,151,10
3190 DATA 161,12,174,6,181,10,192,19,211,19,231,19,251,5,257,4
3200 DATA 261,11,273,10,284,8,293,4,298,6,305,8,313,11,325,12,338,4
3210 DATA 343,5,349,4,354,6,361,4,365,4,370,5,376,5,382,10,393,14
3220 DATA 408,6,415,6,421,5,427,6,434,4,439,4,444,6,451,4,456,4
3230 DATA 461,6,468,6,474,8,483,20,507,7,515,6,522,3
3240 DATA 525,8,534,6,541,9,551,6,558,10,569,5,574,20,596,13
3250 DATA 610,10,621,8,629,15,645,1,647,5,653,8,662,14,677,5
3260 DATA 682,7,690,7,698,20,719,8,728,3,731,5,737,5,743,7,751,8,760,6
3270 DATA 767,4,772,6,779,5,784,4,789,5,795,3,799,7,807,9,817,6
3280 DATA 824,4,829,5
3290 REM
3300 REM ***** N$ ARRAY (840) *****
3310 DATA "ACTUATOR,FEELER-MOTOR-PUMP-VALVE-BELT-SEAL-SHAFT-CHAIN"
3320 DATA "SFKOCKET-BEARING-CYLINDER-VALVE,SOLENOID-RELAY-CONTACT"

```

```

3330 DATA *FUSE-CIRCUIT BREAKER-WIRING-SWITCH-CAMERA-CONTROLLER*
3340 DATA *PAW AND TILT-DAMPER-POSITIONER-AIR HANDLING UNIT 1*
3350 DATA *AIR HANDLING UNIT 2-AIR HANDLING UNIT 3-TIMER-HOSE*
3360 DATA *TRANSMITTER-SPRAY TREE-CONVEYOR-GEAR-WINDOW-HOT SHOE*
3370 DATA *INSIDE CART-OUTSIDE CART-DOOR-GAUGE-TANK-HOPPER-TRAY*
3380 DATA *KACK-HOIST-CABLE-BLOCK/HOOK-LIFTING DEVICE-PALLET-BURNER*
3390 DATA *PILOT-FIREYE-SURF-PIPE-BOILER-COIL-TRAP-HEATER-FILTER*
3400 DATA *STRAINER-THERMOSTAT/THERMOCLPL---LINKAGE-BLOWER-FAN*
3410 DATA *OVERPACK-GLOVES JPHINCTER-WRENCH-COMPRESSOR-DRYER*
3420 DATA *HEAT EXCHANGE/COOLER--CONTROL PANEL-TV MONITOR-CART TDP*
3430 DATA *CIRCUIT BREAKER- -LIGHT-MIRAN 80-BUBBLER/FILTER-TABLE*
3440 DATA *PIG SUT-WOX SET-CONNECTOR/ATTACHMENT-LINK/TAB-PIN*
3450 DATA *ALARM-STAGE-STATION-VIBRATOR-KAPPER-GRID-SAMPLE-WHEEL*
3460 DATA *BAND-STACK-SNI-BATTERY-REGULATOR-BRIDGE-IRIS-OTHER*

```

```

3470 REM

```

```

3480 REM ******** US ARRAY (36) *****

```

```

3490 DATA *JANFEI/HAKAPR/MAY/JUN/JUL/AUG/SEP/OCT/NOV/DEC*

```

```

3500 REM

```

```

3510 REM ***** END OF PROGRAM *****

```


APPENDIX C

APPENDIX C OPERATION OF THE STATISTICAL PROGRAMS

The ID Sets statistical programs are designed to analyze plant air monitoring data, lab quality control data and check the calibration of the lab analyst's machines. There is a separate statistical program and corresponding history tape for each type of agent destroyed. These programs were written for the Tektronix 4051 and 4052 micro-computers along with the 4924 external tape drive, the 4631 hard copy unit and the 4662 plotter. Refer to the glossary of Tektronix hardware terms found in Appendix A.

The computer operator starts by inserting the program tape into the internal tape drive of the 4051 or 4052 computer, and presses the "AUTO LOAD" key. This automatically loads the first program file on the statistics program tape into memory and then executes the program. The directory in Figure C-1 appears on the screen and the computer awaits the operator's choice. Option one creates a new IDS history tape. This tape, when new, contains only information concerning quality control boundaries. After it has been used in conjunction with the statistics program, it will hold the previous day's quality control results (a month at a time) along with the daily lab data. After the tape has been created the program returns to the directory in Figure C-1.

Option two is a program that is used to refresh the history tape and its files between each daily run. It removes the files that contain the daily lab data and leaves intact the files containing the previous day's quality control results. After this option is entered, the instructions in Figure C-2 are displayed. The "HOME PAGE" key is located on the upper left-hand corner of the keyboard. When completed, the program returns to the directory shown in Figure C-1.

When option three is entered the computer screen clears and the message in Figure C-3 appears.

After the user, user-ID and date have been entered the operator must follow the instructions in Figure C-4.

After a brief period of time the message in Figure C-5 appears. The statistics program tape must be removed before this can be done.

The programs for some of the other agents destroyed request additional information concerning lab analyst's initials and the machine number used for the analysis. At this time the daily data tape is read and the data is stored on the IDS history tape. After this process is completed a small flashing "F" is seen in the upper left-hand corner of the CRT screen. This indicates that the "HOME PAGE" key must be pressed. The screen will flash and the actual data (plant air monitoring results) for the day are displayed. After a hard copy is made the "HOME PAGE" key must be pressed to continue. The message in Figure C-6 follows.

Next the statistics program produces a calibration graph based on some of the daily data from the history tape. After a hard copy is produced the "HOME PAGE" key is pressed. The message in Figure C-7 is displayed. At this time the computer operator has a chance to reproduce the same graph but on a larger scale than the hard copy

unit. If the answer is no, the program then calculates the accuracy and precision values for the day. The accuracy and precision results for the day are used to update the monthly history file. From this history file a graph of the month's accuracy values is displayed on the screen. A hard copy is made and the "HOME PAGE" key is pressed to continue. The operator has the choice presented in Figure C-7. Next the graph which shows lab precision values for the month is drawn on the screen. A hard copy is made, the "HOME PAGE" key is pressed and the message in Figure C-7 is again displayed. For some of the agents demilitarized, this is the last graph. For others two more graphs similar to the lab accuracy and precision graphs are produced. The only difference is that they show plant quality control instead of lab quality control. The same procedures are followed for these graphs. When the statistics program is completed the directory in Figure C-1 is displayed and option 4 is chosen.

STATISTICS PROGRAM DIRECTORY

<u>OPTION</u>	<u>FUNCTION</u>
1	CREATE A NEW HISTORY TAPE
2	REFRESH HISTORY TAPE
3	RUN STATISTICS PROGRAMS
4	STOP

WHICH OPTION> (1,2,3,4)

FIGURE C-1

BEGIN PROGRAM TO UPDATE HISTORY TAPE
INSERT HISTORY TAPE INTO INTERNAL TAPE DRIVE
MAKE SURE WRITE PROTECT IS NOT ON SAFE
PRESS HOME PAGE TO START PROGRAM

FIGURE C-2

ID SETS MANAGEMENT

Programmed by
Computer Sciences Corporation
Data Systems Laboratory
NATIONAL SPACE TECHNOLOGY LABORATORY
NSTL Station, Mississippi 39529

Version 7.8
FEBPUARY 18, 1981

PRESS 'RETURN' TO CONTINUE
ENTER USER-ID

ENTER DATE MM/DD/YY

FIGURE C-3

INSERT IDS HISTORY TAPE IN EXTERNAL TAPE UNIT # 4924

*** ENTER EXTERNAL LABEL ON HISTORY TAPE

FIGURE C-4

INSERT RMA TAPE IN 4051

ENTER THE LABEL ON THE RMA DATA TAPE

FIGURE C-5

INSERT PROGRAM TAPE IN 4051
PRESS 'HOME PAGE' TO CONTINUE

FIGURE C-6

DO YOU WANT A 4662 PLOT? (Y/N)

FIGURE C-7

APPENDIX D

APPENDIX D

LISTING OF THE STATISTICAL PROGRAMS

FILE # 1

```

+++++ 100 INIT
      110 03-32
      120 PRINT 003,26:0
      130 PAGE
      140 PRINT "JJ"
      150 GOTO 1
      160 PRINT "JJOPTION"
      170 PRINT "J" 1 CREATE A NEW HISTORY TAPE*
      180 PRINT "2" 2 CANCEL HISTORY TAPE*
      190 PRINT "3" 3 RUN STATISTICS PROGRAMS*
      200 PRINT "4" 4 STOP*
      210 PRINT "JJJJ" WHICH OPTION> (1,2,3,4)*
      220 GOTO 1
      230 IF 01.2. THEN 240
      240 GOTO 1
      250 IF 1 OR 4 THEN 100
      260 GOTO 1
      270 GOTO 1
      280 GOTO 1
      290 GOTO 1
      300 GOTO 1
      310 GOTO 1
      320 GOTO 1
      330 GOTO 1
      340 GOTO 1
      350 GOTO 1
      360 GOTO 1
      370 GOTO 1
      380 GOTO 1
      390 GOTO 1
      400 GOTO 1
      410 GOTO 1
      420 GOTO 1
      430 GOTO 1
      440 GOTO 1
      450 GOTO 1
      460 GOTO 1
      470 GOTO 1
      480 GOTO 1
      490 GOTO 1
      500 GOTO 1
      510 GOTO 1
      520 GOTO 1
      530 GOTO 1
      540 GOTO 1
      550 GOTO 1
      560 GOTO 1
      570 GOTO 1
      580 GOTO 1
      590 GOTO 1
      600 GOTO 1
      610 GOTO 1
      620 GOTO 1
      630 GOTO 1
      640 GOTO 1
      650 GOTO 1
      660 GOTO 1
      670 GOTO 1
      680 GOTO 1
      690 GOTO 1
      700 GOTO 1
      710 GOTO 1
      720 GOTO 1
      730 GOTO 1
      740 GOTO 1
      750 GOTO 1
      760 GOTO 1
      770 GOTO 1
      780 GOTO 1
      790 GOTO 1
      800 GOTO 1
      810 GOTO 1
      820 GOTO 1
      830 GOTO 1
      840 GOTO 1
      850 GOTO 1
      860 GOTO 1
      870 GOTO 1
      880 GOTO 1
      890 GOTO 1
      900 GOTO 1
      910 GOTO 1
      920 GOTO 1
      930 GOTO 1
      940 GOTO 1
      950 GOTO 1
      960 GOTO 1
      970 GOTO 1
      980 GOTO 1
      990 GOTO 1
      1000 GOTO 1

```


FILE # 2

```
100 INIT
110 REM MAKE SURE SCREEN DOES NOT AUTOMATICALLY PAGE WHEN FULL
120 PRINT @32,26:0
130 REM ASSIGN DEVICE NUMBERS;FIND FILE 2 OF HISTORY TAPE;SKIP RECORD
140 U1=33
150 U2=11
160 FIND @U2:0
170 FIND @U2:2
180 INPUT @U2:U4,U5
190 DIM Z$(20),C$(20),F$(10),E$(72),T$(127),B$(127)
200 DIM M$(6),Y$(30),X$(30),R$(2),A$(6),N$(1),S$(1),W$(7)
210 K$.
220 DIM X1(32),Y1(32),X2(32),Y2(32),N2(32),G6(32),N0(8),P(34),O7(32)
230 DIM S(8),M(8),H(8),M8(8),M9(8),P0(34)
240 DIM T7(40)
250 DATA 12.706,4.307,3.182,2.776,2.579,2.451,2.366,2.307,2.262,2.228
260 DATA 2.201,2.179,2.16,2.145,2.131,2.12,2.11,2.101,2.093,2.086,2.08
270 DATA 2.074,2.069,2.064,2.06,2.056,2.052,2.049,2.046,2.043,2.04
280 DATA 2.037,2.035,2.03,2.028,2.027,2.025,2.023,2.022
290 READ T7
300 E$.
310 FOR I=1 TO 71
320 E$=E$+T7.
330 NEXT I
340 REM*
350 REM INITIALIZE PLOFILES
360 REM*
370 F$="PLOFILES"
380 REM CHCK HISTORY TAPE HEADER AND GET N9
390 GOSUB 60000
400 FIND @U2:M9
410 PRINT @U2:F$
420 PRINT @U2:Z:
430 REM* INITIALIZE PLOT FILES
440 F$="PLOTSOC"
450 GOSUB 60000
460 FIND @U2:M9
470 PRINT @U2:F$
480 PRINT @U2:Z:
490 PRINT "GGGGGGG"
500 PRINT "INSERT KMA TAPE IN 4051"
510 PRINT "ENTER THE LABEL ON THE KMA DATA TAPE"
520 U3=Z4
530 FIND @U1:1
540 A=IY(0)
550 IF A=1 THEN 500
560 INPUT @U1:Y5
570 IF LEN(Y5) < 13 THEN 410
```



```

+++3+++ 1220 A=TYPE(0)
1230 IF A<2 THEN 1370
1240 INPUT B1:B4
1250 GOSUB 5000
1260 IF A<1 THEN 1220
1265 I4=B4
1270 X1=SEG(B4,27,7)
1280 C4=SEG(X4,1,2)
1290 IF C4="NA" THEN 1220
1300 N=1+N
1310 REM Load calibration data into X2 and Y2
1320 X2(N)=VAL(X4)
1330 X4=SEG(B4,48,7)
1340 Y2(N)=VAL(X4)
1350 GO TO 1220
1360 REM now load transformed data into X1,Y1
1370 B4=B4
1380 GO TO 00 OF 1400,1500,1600
1390 REM X=ln(X) transform
+++1+++ 1400 FOR I=1 TO N
1410 Y1(I)=Y2(I)+P(32)
1420 X1(I)=LOG(X2(I)+P(32))
1430 NEXT I
1440 GO TO 1460
1450 REM Y=ln(Y)
+++1+++ 1500 FOR I=1 TO N
1510 X1(I)=X2(I)+P(32)
1520 Y1(I)=LOG(-Y2(I)+P(31))
1530 NEXT I
1540 GO TO 1660
1550 REM no transformation
+++1+++ 1600 FOR I=1 TO N
1610 X1(I)=X2(I)+P(32)
1620 Y1(I)=Y2(I)+P(31)
1630 NEXT I
1640 REM end of load routine
1650 REM Process Calibration Data
+++2+++ 1660 PRINT "Processing Calibration Data for "JH$
1670 GOSUB 7000
1680 GOSUB 20000
1690 GOSUB 25000
1700 F(13)=CB
1710 P(13)=01
1720 M1=0
1730 M2=0
1740 M3=0
1750 M4=0

```

```

1780 M5=0
1790 P(6)=N
1800 FOR I=1 TO N
1810 M1=M1X1(I)
1820 M2=M2Y1(I)
1830 M3=M3X1(I)*X1(I)
1840 M4=M4Y1(I)*Y1(I)
1850 M5=M5X1(I)*Y1(I)
1860 NEXT I
1870 C=F(U)*M3-M1*M1
1880 P(10)=P(8)/C
1890 P(11)=M1/C
1900 P(12)=M3/C
1910 P(2)=(P(8)*M5-M1*M2)/(P(8)*M3-M1*M1)
1920 P(1)=(M2-P(2)*M1)/P(8)
1930 P(4)=P(1)
1940 P(5)=P(2)
1950 M=0
1960 FOR I=1 TO P(8)
1970 D=D+(Y1(I)-P(1)-P(2)*X1(I))^2
1980 NEXT I
1990 P(23)=1-E/(M4-M2*M2/P(8))
2010 P(6)=D/P(8)-2
2020 P(9)=1
2030 P(29)=1
2040 P(27)=P(6)
2050 L3=Calibration of Instrument Response *104
2060 L3=L3*10
2070 L3=L3*10
2080 DIM Y(30)
2090 X3=CONCENTRATION
2100 Y3=INSTRUMENT RESPONSE
2110 B3=SEG(X3,14,2)
2120 B3=B3*10
2130 B3=SEG(B3,12,2)
2140 B3=B3*10
2150 B3=B3*10
2160 M3=SEG(B3,12,2)
2170 B3=B3*10
2180 GOSUB 61000
2190 P(3)=P
2192 REM GET PARAMETERS FOR Y vs F
2194 F3=HR*6M3
2196 GOSUB 60000
2198 L4=UT QUT:B3,P
2204 P(31)=0
2206 P(32)=0
2208 P(3)=3
2210 REM Process OL & OP data
2220 GOSUB 16000
2230 B3=OL
2240 C=0.288
2245 B3=0.945
2250 GOSUB 7000
2260 GOSUB 3500
2270 GOSUB 3750

```

```

2275 Q1="OP"
2280 C=0.200
2285 O7=0.93
2290 GOSUB 7000
2300 GOSUB 3500
2310 GOSUB 3750

2320 REM Input Actual Data

2330 N=0
2340 FIND CUI:1
2350 INPUT CUI:1$
++3+++
2350 A=1/C(0)
2370 IF A<2 THEN 2460
2380 INPUT CUI:1$
2390 GOSUB 5000
2400 IF A<1 THEN 2360
2405 I=I+1
2410 Y1=SEG$(H$+118,2)
2420 IF Y1<>"FL" THEN 2360
2430 N=1+N
2440 GOSUB 10000
2450 GO TO 2360
++1+++
2460 B1=1$
2470 RETURN

```

2992 REM Determine Groups

```

---2---
3000 K=0
3010 N2=0
++2+++
3020 FOR J1=1 TO N
3030 IF N2(J1)=0 THEN 3180
3040 NEXT J1
++1+++
3050 N7=0
3060 FOR J=1 TO N
3070 IF N2(J)=1 THEN 3090
3080 N7=N7+1
++1+++
3090 NEXT J

```

3100 REM Determine number in each group

```

3110 N0=0
3120 IF N=0 THEN 3170
3130 FOR J=1 TO N
3140 IF N2(J)=1 THEN 3160
3150 N0(N2(J))=1+N0(N2(J))
3160 NEXT J
3170 RETURN
3180 IF J1<N THEN 3210
3190 N2(N)=1
3200 GO TO 3050
3210 N=1
3220 N2(J1)=N
3230 J2=1
3240 J3=Y1(J1)
3250 J4=J3+J3
3260 FOR J=J1+1 TO N
3270 IF N2(J)<>0 OR X1(J)<>X1(J1) THEN 3410

```

```

3200 N2(J)=K
3290 J2=1+J2
3300 J3=J3+Y1(J)
3400 J4=J4+Y1(J)*Y1(J)
+++++
3410 NEXT J
3420 J5=J4-J3*J3/J2
3430 IF J2<1 AND J5<0 THEN 3020
3440 FOR J=1 TO N
3450 IF H2(J)<K THEN 3470
3460 N2(J)=1
3470 NEXT J
+++++
3480 N=N-1
3490 GO TO 3020
3498 REM OC
3499 REM X1(N2(I)) P(25)*P(26)

```

```

---2---
3500 S1=0
3510 S2=0
3520 J=0
3530 IF N=0 THEN 3580
3540 P(25)=0
3550 P(26)=0
3560 P(28)=0
3570 GO TO 3660
3580 FOR I=1 TO N
3590 J=1+J

```

```

3593 REM ADJUSTMENT FOR CALCULATED RECOVERY
3595 X1(I)=X1(I)/O7
3600 S1=S1+X1(I)
3610 S2=S2+X1(I)*X1(I)
3620 NEXT I
3630 P(25)=S1/J
3640 P(28)=J
3650 P(26)=SOR(S2/J-P(25)*P(25))
+++++
3660 RETURN

```

3749 REM update FLOT50C

```

---2---
3750 F4=FLOT50C
3760 GOSUB 6000
3770 INPUT Q02,6:A
3780 IF A<2 THEN 3810
3790 INPUT Q02,E4
3800 GO TO 3770
3810 E4=0.405
3820 F4=E4*.298
3830 FLOT50C=F4
3840 INPUT Q02,E4
3850 FLOT50C=F4
3860 PRINT Q02,E4,P(25),P(26),P(28)
3870 PRINT Q02,E4
3880 RETURN

```

4999 REM check for accountable record

---3---
5000 A=1
5010 X\$=SEG(R\$,6,1)
5020 REM see if it is data or comment record
5030 IF X\$<>'1' AND X\$<>'3' THEN 5130
5040 X\$=SEG(R\$,18,2)
5050 REM check agent code
5060 IF X\$<>H\$ THEN 5130
5070 X\$=SEG(R\$,20,1)
5080 REM check serial number
5090 IF X\$<>N\$ THEN 5130
5100 X\$=SEG(R\$,87,3)
5110 REM check analyst's initials
5120 IF X\$=V\$ THEN 5140
5130 A=0
+++3+++
+++1+++ 5140 RETURN
5299 REM GROUP MOVEMENTS

---1---
6000 N7=0
6010 H6=0
6020 N7=0
6030 H9=0
6040 N7=0
6050 FOR I=1 TO N
6060 IF N2(I)<1 THEN 6130
6070 N7=N7+1
6080 H6(N2(I))=H6(N2(I))+X1(I)
6090 N7(N2(I))=N7(N2(I))+V1(I)
6100 M8(N2(I))=M8(N2(I))+X1(I)
6110 M9(N2(I))=M9(N2(I))+V1(I)
6120 N9(N2(I))=N9(N2(I))+X1(I)
6130 NEXT I
+++1+++ 6140 RETURN
6999 REM Get data for UL & OP

---3---
7000 H=0
7010 FIRD QUIT
7020 FIRD QUIT
7030 INPUT QUIT\$
7040 G=TYPE(0)
7050 IF A<>2 THEN 7410
7060 INPUT QUIT\$
7070 GOSUB 5000
7080 IF A<>1 THEN 7040

```

7090 W$=SEG(B$,118,2)
7110 IF W$<>0$ THEN 7040
71 0 REMcheck for control concentration
7130 Y$=SEG(H$,97,7)
7140 IF C=0 THEN 7160
7150 IF VAL(Y$)<>C THEN 7040
7160 Y$=SEG(H$,48,7)
7170 Y=VAL(Y$)
7175 REM Calibrate QC Data
7180 GO TO 00 OF 7260,7190,7290
+++1+++ 7190 Y=LOG(-Y+P0(31))
7210 X=(Y-F0(1))/F0(2)-P0(32)
7240 GO TO 7310
7250 REM case 1
+++1+++ 7260 X=EXP((Y-F0(1)+P(31))/F0(2))-P0(32)
7270 GO TO 7310
7280 REM case 3 no transform
+++1+++ 7290 X=(Y-F0(1)+P(31))/F0(2)-P0(32)
7300 REM end of case statement based on transformation
+++1+++ 7310 W$=SEG(S$,62,7)
7315 IF W$="NA" THEN 7040
7320 X=X*VAL(W$)
7322 W$=SEG(B$,69,7)
7325 IF W$="NA" THEN 7040
7327 X=X*VAL(W$)/10
7330 Y$=SEG(H$,97,7)
7340 Y=VAL(Y$)
7350 N=11H
7360 X1(N)=X
7370 X2(N)=X
7380 Y1(N)=Y
7390 Y2(N)=Y
7400 GO TO 7040
+++1+++ 7410 RETURN
9998 REM get actual data from B$
9999 REM Peak Heights
-----1----- 10000 Y1=SEG(H$,48,7)
10010 Y0=VAL(Y$)
10020 GO TO 00 OF 10120,10040,10150
10030 REM case 2 Y=ln(Y)
+++1+++ 10040 Y'=LOG(-Y0+P0(31))
10050 X0=(Y0-F0(1))/F0(2)-P0(32)
10100 GO TO 10170

```



```

10110 REM case 1 X=ln(X)
++1111+ 10120 X0=EXP((Y0/P0(31)-P0(1))/P0(2))-P0(32)
10130 GO TO 10170
10140 REM case 3 no transform
++1111+ 10150 X0=(Y0/P0(31)-P0(1))/P0(2)-P0(32)
10160 REM end of case statement on 00
++1211+ 10170 Y0=X0
10172 X0=(X0-P(1))/P(2)
10173 REM ADJUSTMENT FOR CALCULATED RECOVERY
10175 X0=X0/0.945
10180 GOSUB 15000
10190 X0=SEG(H0,62,7)
10200 H0=VAL(X0)
10210 X0=SEG(H0,69,7)
10220 H0=H0*VAL(X0)
10230 REM Get Time
10240 X0=SEG(H0,126,2)
10250 Y0=SEG(H0,122,2)
10260 X0=VAL(X0)
10270 Y0=VAL(Y0)
10280 Z=X-Y
10290 X0=SEG(H0,124,2)
10300 Y0=SEG(H0,120,2)
10310 X0=VAL(X0)
10320 Y0=VAL(Y0)
10330 Z=(X-Y)*604Z
10340 REM Get Airflow
10350 Y0=SEG(H0,90,7)
10360 Y0=VAL(Y0)
10370 X0=X0/H0/(Y0Z)
10380 L0=L0*H0/(Y0Z)
10390 U0=U0*H0/(Y0Z)
10400 REM Print out actual Data
10410 I0=B0
10420 IF INT((N-1)/20)*20<N-1 THEN 10630
10430 B0=E0
10440 B0=REF("Actual Data for ",24,14)
10450 B0=REF(H0,40,2)
10460 H0=REF("Date:",52,5)
10470 B0=REF(H0,58,8)
10480 PRINT "C.I.J."
10490 PRINT "J.I.H"
10500 B0=E0
10510 B0=REF("Asent Concentration",29,19)
10520 PRINT "JJ:B0"
10530 B0=E0
10540 B0=REF("-----",24,29)

```

```

10550 PRINT B$
10560 B1=E1
10570 B1=REF("Sample Location",5,15)
10580 B1=REF("True",25,4)
10590 B1=REF("Lower 95%",32,9)
10600 B1=REF("Upper 95%",44,9)
10605 B1=REF("TIME",59,4)
10610 PRINT B$

```

```

10620 REM Print Data

```

```

10630 B1=E1
10640 X1=SEG(T1,21,6)
10650 B1=REF(X1,5,6)
10660 X1=SEG(T1,116,2)
10670 B1=REF(X1,15,2)
10680 L1=STR(X0)
10690 GOSUB 58000
10700 IF X0>1.0E-3 THEN 10730
10710 L1=L1*100
10720 GOTO 11400

```

```

10730 B1=REF(L1,24,00)
10740 IF X0<0.00115 THEN 10822
10750 L1=STR(U0)
10760 GOSUB 58000
10770 GOSUB 14000
10780 B1=REF(L1,34,00)
10790 L1=STR(L0)
10800 GOSUB 58000
10810 GOSUB 14000
10820 B1=REF(L1,46,00)
10832 L1=SEG(T1,120,4)
10834 B1=REF(L1,56,4)
10826 L1=SEG(T1,124,4)
10838 B1=REF(L1,62,4)
10830 PRINT B$
10840 RETURN

```

```

13999 REM check if data is from location 'DR','OR','RA','LA'

```

```

14000 Y1=SEG(T1,116,2)
14010 IF Y1="DR" OR "CR"=Y1 OR Y1="RA" OR Y1="LA" THEN 14030
14020 L1=SEG(E1,1,00)
14030 RETURN

```

```

14995 REM Solve Linear Regression in Reverse
14996 REM for Upper and Lower Confidence Limits
14997 REM Y0,X0 L0,U0
14998 REM T-VALUES L=0.025 U=0.975

```

```

15000 X7=X0
15010 U0=0

```

```

15020 REM Transform Y0

```

```

15030 Y0=(Y0+P(31))*F(29)

```

```

15040 Y7=Y0
15042 IF P(B) < 42 THEN 15050
15044 T3=3.8416*P(6)
15046 GO TO 15060
+++
15050 T3=17*(F(10)-2)*P(6)
+++
15060 A1=F(2)*P(2)-F(10)*T3
15070 B1=F(2)*(Y7-F(11))-P(11)*T3
15080 A9=(X7*P(30))-P(7)
15090 B3=0
15100 A2=A94P(12)
15110 B2=Y7-P(1)
15120 A3=T3*(F(11)-2-P(10)*A2)+P(2)*P(2)*A2+B2*(P(10)+B2-2)*P(2)*P(11)
15125 IF A3 < 0 THEN 15190
15127 IF P(10) > 42 THEN 15134
15130 B3=T7*(F(8)-2)*SQR(A3*P(6))
15132 GO TO 15140
+++
15134 B3=1.96*SQR(A3*P(6))
+++
15140 X7=(B1+B3)/A1
15150 L0=X7-P(32)
15160 X7=(B1-B3)/A1
15170 U0=X7-P(32)
15180 RETURN
+++
15190 PRINT "IMAGINARY ROOTS"
15200 L0=10000
15210 X7=10000
15220 U0=10000
15230 RETURN

```

---J--- 16000 PRINT "Processing Q1 & Q2 data for JHS"

```

16010 C=0
16020 Q4=
16030 GOSUB 7000
16040 IF N=0 THEN 16570
16050 F=0
16060 F(3)=Z
16070 GOSUB 3000
16080 GOSUB 20000
16090 GOSUB 25000
16100 F(13)=CB
16110 F(14)=A1
16120 M1=0
16130 M2=0
16140 M3=0
16150 M4=0
16160 M5=0
16170 F(1)=N
16180 FOR I=1 TO P(8)
16190 M1=M1+X1(I)
16200 M2=M2+Y1(I)
16210 M3=M3+X1(I)*X1(I)
16220 M4=M4+Y1(I)*Y1(I)
16230 M5=M5+X1(I)*Y1(I)
16240 NEXT I
16250 C=P(8)*M3-M1*M1
16260 F(10)=F(8)/C
16270 F(11)=M1/C
16280 F(12)=M3/C
16290 F(2)=(F(8)+M5-M1*M2)/(F(8)+M3-M1*M1)
16300 F(1)=(M2-F(2)*M1)/F(8)

```

```

16310 P(4)=P(1)
16320 P(5)=P(2)
16330 U=0
16340 FOR I=1 TO P(8)
16350 U=U+(Y1(I)-P(1)-P(2)*X1(I))^2
16360 NEXT I
16370 B(23)=1-B/(M4-N2*N2/P(8))
16390 P(6)=B/(P(8)-2)
16400 P(9)=1
16410 P(29)=1
16420 P(27)=P(6)
16430 L$="Found vs Target"
16440 L$=L$+" "
16450 L$=L$+"$ "
16460 DIM Y$(30)
16470 X$="Found"
16480 Y$="Target"
16490 D$=SEG$(B$,14,2)
16500 B$=B$+"/"
16510 U$=SEG$(B$,12,2)
16520 D$=D$+"$"
16530 B$=B$+"/"
16540 U$=SEG$(B$,16,2)
16550 D$=D$+"$"
16560 GOSUB 61000
16570 RETURN

```

```

+++++

```

```

19995 REM
19996 REM Perform BARTLETT'S TEST for homogeneity
19997 REM F(6),P(7),Y2(J),X2(N0(J)),KIC8,M1
19998 REM find variance for each level
19999 REM

```

```

---2---
20000 ON SIZE THEN 20370
20010 C0=-1
20020 IF N=0 THEN 20370
20030 S3=1
20040 S=0
20050 GOSUB 6000
20060 S=0
20070 FOR J=1 TO N
20080 IF N2(J)=-1 THEN 20110
20090 S(N2(J))=S(N2(J))+Y1(J)-H7(N2(J))/N0(N2(J))^2
20100 NEXT J
20110 FOR J=1 TO K
20120 S(J)=S(J)/(N0(J)-1)
20130 S(J)=S(J)/(N0(J)-1)
20140 IF S(J)=0 THEN 20370
20150 NEXT J
20160 REM find pooled variance
20170 A=0
20180 S2=1
20190 FOR J=1 TO K
20200 A=(N0(J)-1)*S(J)/S3+A
20210 NEXT J
20220 S4=A/(N7-K)

```

[illegible]

6-2-1-1

2017-11-15

CHRYSLER

— 111 —

20 PM 1101 CHL-SQUAKE

0-4-2

ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED

$$A - (A \cap B) = A \setminus B$$

1245

0-100 G-1 (M7 K) 8LUG(S4)-A)/C

06107 N311 Q-13 If (c)cc

*** F-TEST NOT DEFINED FOR DATA SET 'IMS'

—

Figure 1. The effect of the concentration of the *Agrobacterium* suspension on the transformation efficiency of *Agrobacterium* strains. The concentration of the *Agrobacterium* suspension was 10⁶ cells/ml (A), 10⁷ cells/ml (B), 10⁸ cells/ml (C), 10⁹ cells/ml (D), and 10¹⁰ cells/ml (E). The concentration of the *Agrobacterium* suspension was 10⁶ cells/ml (A), 10⁷ cells/ml (B), 10⁸ cells/ml (C), 10⁹ cells/ml (D), and 10¹⁰ cells/ml (E). The concentration of the *Agrobacterium* suspension was 10⁶ cells/ml (A), 10⁷ cells/ml (B), 10⁸ cells/ml (C), 10⁹ cells/ml (D), and 10¹⁰ cells/ml (E).

77145

ALLIANCE

CHLORINE CHLORIDE DISTRIBUTION

0-6057 #3811 0-100 11-11-59

SECRET

010 2010 010 010

02067-100-2502

INFORMAL

10

[illegible]

11451

INDEX

Index

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
148
149
150
151
152
153
154
155
156
157
158
159
160
161
162
163
164
165
166
167
168
169
170
171
172
173
174
175
176
177
178
179
180
181
182
183
184
185
186
187
188
189
190
191
192
193
194
195
196
197
198
199
200
201
202
203
204
205
206
207
208
209
210
211
212
213
214
215
216
217
218
219
220
221
222
223
224
225
226
227
228
229
230
231
232
233
234
235
236
237
238
239
240
241
242
243
244
245
246
247
248
249
250
251
252
253
254
255
256
257
258
259
260
261
262
263
264
265
266
267
268
269
270
271
272
273
274
275
276
277
278
279
280
281
282
283
284
285
286
287
288
289
290
291
292
293
294
295
296
297
298
299
300
301
302
303
304
305
306
307
308
309
310
311
312
313
314
315
316
317
318
319
320
321
322
323
324
325
326
327
328
329
330
331
332
333
334
335
336
337
338
339
340
341
342
343
344
345
346
347
348
349
350
351
352
353
354
355
356
357
358
359
360
361
362
363
364
365
366
367
368
369
370
371
372
373
374
375
376
377
378
379
380
381
382
383
384
385
386
387
388
389
390
391
392
393
394
395
396
397
398
399
400
401
402
403
404
405
406
407
408
409
410
411
412
413
414
415
416
417
418
419
420
421
422
423
424
425
426
427
428
429
430
431
432
433
434
435
436
437
438
439
440
441
442
443
444
445
446
447
448
449
450
451
452
453
454
455
456
457
458
459
460
461
462
463
464
465
466
467
468
469
470
471
472
473
474
475
476
477
478
479
480
481
482
483
484
485
486
487
488
489
490
491
492
493
494
495
496
497
498
499
500
501
502
503
504
505
506
507
508
509
510
511
512
513
514
515
516
517
518
519
520
521
522
523
524
525
526
527
528
529
530
531
532
533
534
535
536
537
538
539
540
541
542
543
544
545
546
547
548
549
550
551
552
553
554
555
556
557
558
559
560
561
562
563
564
565
566
567
568
569
570
571
572
573
574
575
576
577
578
579
580
581
582
583
584
585
586
587
588
589
590
591
592
593
594
595
596
597
598
599
600
601
602
603
604
605
606
607
608
609
610
611
612
613
614
615
616
617
618
619
620
621
622
623
624
625
626
627
628
629
630
631
632
633
634
635
636
637
638
639
640
641
642
643
644
645
646
647
648
649
650
651
652
653
654
655
656
657
658
659
660
661
662
663
664
665
666
667
668
669
670
671
672
673
674
675
676
677
678
679
680
681
682
683
684
685
686
687
688
689
690
691
692
693
694
695
696
697
698
699
700
701
702
703
704
705
706
707
708
709
710
711
712
713
714
715
716
717
718
719
720
721
722
723
724
725
726
727
728
729
730
731
732
733
734
735
736
737
738
739
740
741
742
743
744
745
746
747
748
749
750
751
752
753
754
755
756
757
758
759
760
761
762
763
764
765
766
767
768
769
770
771
772
773
774
775
776
777
778
779
780
781
782
783
784
785
786
787
788
789
790
791
792
793
794
795
796
797
798
799
800
801
802
803
804
805
806
807
808
809
810
811
812
813
814
815
816
817
818
819
820
821
822
823
824
825
826
827
828
829
830
831
832
833
834
835
836
837
838
839
840
84

0550 4211 411 111

1. *Staphylococcus aureus*

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
148
149
150
151
152
153
154
155
156
157
158
159
160
161
162
163
164
165
166
167
168
169
170
171
172
173
174
175
176
177
178
179
180
181
182
183
184
185
186
187
188
189
190
191
192
193
194
195
196
197
198
199
200
201
202
203
204
205
206
207
208
209
210
211
212
213
214
215
216
217
218
219
220
221
222
223
224
225
226
227
228
229
230
231
232
233
234
235
236
237
238
239
240
241
242
243
244
245
246
247
248
249
250
251
252
253
254
255
256
257
258
259
260
261
262
263
264
265
266
267
268
269
270
271
272
273
274
275
276
277
278
279
280
281
282
283
284
285
286
287
288
289
290
291
292
293
294
295
296
297
298
299
300
301
302
303
304
305
306
307
308
309
310
311
312
313
314
315
316
317
318
319
320
321
322
323
324
325
326
327
328
329
330
331
332
333
334
335
336
337
338
339
340
341
342
343
344
345
346
347
348
349
350
351
352
353
354
355
356
357
358
359
360
361
362
363
364
365
366
367
368
369
370
371
372
373
374
375
376
377
378
379
380
381
382
383
384
385
386
387
388
389
390
391
392
393
394
395
396
397
398
399
400
401
402
403
404
405
406
407
408
409
410
411
412
413
414
415
416
417
418
419
420
421
422
423
424
425
426
427
428
429
430
431
432
433
434
435
436
437
438
439
440
441
442
443
444
445
446
447
448
449
450
451
452
453
454
455
456
457
458
459
460
461
462
463
464
465
466
467
468
469
470
471
472
473
474
475
476
477
478
479
480
481
482
483
484
485
486
487
488
489
490
491
492
493
494
495
496
497
498
499
500
501
502
503
504
505
506
507
508
509
510
511
512
513
514
515
516
517
518
519
520
521
522
523
524
525
526
527
528
529
530
531
532
533
534
535
536
537
538
539
540
541
542
543
544
545
546
547
548
549
550
551
552
553
554
555
556
557
558
559
560
561
562
563
564
565
566
567
568
569
570
571
572
573
574
575
576
577
578
579
580
581
582
583
584
585
586
587
588
589
590
591
592
593
594
595
596
597
598
599
600
601
602
603
604
605
606
607
608
609
610
611
612
613
614
615
616
617
618
619
620
621
622
623
624
625
626
627
628
629
630
631
632
633
634
635
636
637
638
639
640
641
642
643
644
645
646
647
648
649
650
651
652
653
654
655
656
657
658
659
660
661
662
663
664
665
666
667
668
669
670
671
672
673
674
675
676
677
678
679
680
681
682
683
684
685
686
687
688
689
690
691
692
693
694
695
696
697
698
699
700
701
702
703
704
705
706
707
708
709
710
711
712
713
714
715
716
717
718
719
720
721
722
723
724
725
726
727
728
729
730
731
732
733
734
735
736
737
738
739
740
741
742
743
744
745
746
747
748
749
750
751
752
753
754
755
756
757
758
759
760
761
762
763
764
765
766
767
768
769
770
771
772
773
774
775
776
777
778
779
780
781
782
783
784
785
786
787
788
789
790
791
792
793
794
795
796
797
798
799
800
801
802
803
804
805
806
807
808
809
810
811
812
813
814
815
816
817
818
819
820
821
822
823
824
825
826
827
828
829
830
831
832
833
834
835
836
837
838
839
840
84

[illegible]

Figure 1 shows a Northern blot analysis of 18S rRNA and GAPDH mRNA levels in various tissues. The blot is divided into three main sections: 18S rRNA (lanes 1-5), GAPDH mRNA (lanes 6-10), and GAPDH mRNA (lanes 11-15). Molecular weight markers are indicated on the right side of the blot, ranging from 1.0 to 2.0 kb. The tissues represented in the lanes are: 1. 18S rRNA, 2. 18S rRNA, 3. 18S rRNA, 4. 18S rRNA, 5. 18S rRNA, 6. GAPDH mRNA, 7. GAPDH mRNA, 8. GAPDH mRNA, 9. GAPDH mRNA, 10. GAPDH mRNA, 11. GAPDH mRNA, 12. GAPDH mRNA, 13. GAPDH mRNA, 14. GAPDH mRNA, 15. GAPDH mRNA.

100

[illegible]

11

2000

100-101-102-103-104-105-106-107-108-109-110-111-112-113-114-115-116-117-118-119-120-121-122-123-124-125-126-127-128-129-130-131-132-133-134-135-136-137-138-139-140-141-142-143-144-145-146-147-148-149-150-151-152-153-154-155-156-157-158-159-160-161-162-163-164-165-166-167-168-169-170-171-172-173-174-175-176-177-178-179-180-181-182-183-184-185-186-187-188-189-190-191-192-193-194-195-196-197-198-199-200-201-202-203-204-205-206-207-208-209-210-211-212-213-214-215-216-217-218-219-220-221-222-223-224-225-226-227-228-229-230-231-232-233-234-235-236-237-238-239-240-241-242-243-244-245-246-247-248-249-250-251-252-253-254-255-256-257-258-259-260-261-262-263-264-265-266-267-268-269-270-271-272-273-274-275-276-277-278-279-280-281-282-283-284-285-286-287-288-289-290-291-292-293-294-295-296-297-298-299-300-301-302-303-304-305-306-307-308-309-310-311-312-313-314-315-316-317-318-319-320-321-322-323-324-325-326-327-328-329-330-331-332-333-334-335-336-337-338-339-340-341-342-343-344-345-346-347-348-349-350-351-352-353-354-355-356-357-358-359-360-361-362-363-364-365-366-367-368-369-370-371-372-373-374-375-376-377-378-379-380-381-382-383-384-385-386-387-388-389-390-391-392-393-394-395-396-397-398-399-400-401-402-403-404-405-406-407-408-409-410-411-412-413-414-415-416-417-418-419-420-421-422-423-424-425-426-427-428-429-430-431-432-433-434-435-436-437-438-439-440-441-442-443-444-445-446-447-448-449-450-451-452-453-454-455-456-457-458-459-460-461-462-463-464-465-466-467-468-469-470-471-472-473-474-475-476-477-478-479-480-481-482-483-484-485-486-487-488-489-490-491-492-493-494-495-496-497-498-499-500-501-502-503-504-505-506-507-508-509-510-511-512-513-514-515-516-517-518-519-520-521-522-523-524-525-526-527-528-529-530-531-532-533-534-535-536-537-538-539-540-541-542-543-544-545-546-547-548-549-550-551-552-553-554-555-556-557-558-559-560-561-562-563-564-565-566-567-568-569-570-571-572-573-574-575-576-577-578-579-580-581-582-583-584-585-586-587-588-589-590-591-592-593-594-595-596-597-598-599-600-601-602-603-604-605-606-607-608-609-610-611-612-613-614-615-616-617-618-619-620-621-622-623-624-625-626-627-628-629-630-631-632-633-634-635-636-637-638-639-640-641-642-643-644-645-646-647-648-649-650-651-652-653-654-655-656-657-658-659-660-661-662-663-664-665-666-667-668-669-670-671-672-673-674-675-676-677-678-679-680-681-682-683-684-685-686-687-688-689-690-691-692-693-694-695-696-697-698-699-700-701-702-703-704-705-706-707-708-709-710-711-712-713-714-715-716-717-718-719-720-721-722-723-724-725-726-727-728-729-730-731-732-733-734-735-736-737-738-739-740-741-742-743-744-745-746-747-748-749-750-751-752-753-754-755-756-757-758-759-760-761-762-763-764-765-766-767-768-769-770-771-772-773-774-775-776-777-778-779-780-781-782-783-784-785-786-787-788-789-790-791-792-793-794-795-796-797-798-799-800-801-802-803-804-805-806-807-808-809-810-811-812-813-814-815-816-817-818-819-820-821-822-823-824-825-826-827-828-829-830-831-832-833-834-835-836-837-838-839-840-841-842-843-844-845-846-847-848-849-850-851-852-853-854-855-856-857-858-859-860-861-862-863-864-865-866-867-868-869-870-871-872-873-874-875-876-877-878-879-880-881-882-883-884-885-886-887-888-889-890-891-892-893-894-895-896-897-898-899-900-901-902-903-904-905-906-907-908-909-910-911-912-913-914-915-916-917-918-919-920-921-922-923-924-925-926-927-928-929-930-931-932-933-934-935-936-937-938-939-940-941-942-943-944-945-946-947-948-949-950-951-952-953-954-955-956-957-958-959-960-961-962-963-964-965-966-967-968-969-970-971-972-973-974-975-976-977-978-979-980-981-982-983-984-985-986-987-988-989-990-991-992-993-994-995-996-997-998-999-1000-1001-1002-1003-1004-1005-1006-1007-1008-1009-1010-1011-1012-1013-1014-1015-1016-1017-1018-1019-1020-1021-1022-1023-1024-1025-1026-1027-1028-1029-1030-1031-1032-1033-1034-1035-1036-1037-1038-1039-1040-1041-1042-1043-1044-1045-1046-1047-1048-1049-1050-1051-1052-1053-1054-1055-1056-1057-1058-1059-1060-1061-1062-1063-1064-1065-1066-1067-1068-1069-1070-1071-1072-1073-1074-1075-1076-1077-1078-1079-1080-1081-1082-1083-1084-1085-1086-1087-1088-1089-1090-1091-1092-1093-1094-1095-1096-1097-1098

100

06987

---J---
50000 N=SEG(L*,2,1)
50010 IF N=-1 THEN 58120
50020 00=POS(L*,E*,1)
50030 IF 00=0 THEN 58070
50040 L=SEG(L*,1,6)
50050 00=6
50060 RETURN

||||| 50070 REM NUMBER IS IN SCIENTIFIC NOTATION

50080 N=SEG(L*,00+1,4)
50090 00=VAL(N*)
50100 IF 00=0 THEN 58260
50110 IF 00=-4 THEN 58150

||||| 50120 L3=0.000*

50130 00=6

50140 RETURN

||||| 50150 N=SEG(L*,1,1)

50160 N=N*0.

||||| 50170 00 TO -00 OF 58200,58190,58180

50180 N=N*0.

||||| 50190 N=N*0.

50200 00=6-LEN(N*)

||||| 50210 L=SEG(L*,2,00+1)

50220 L=VAL(L*,2,1)

50230 L=L*4L*

50240 00=6

50250 RETURN

||||| 50260 REM SECTION TO PRINT OUT >>>

58270 L=SEG(L*,1,5)

58280 L=L*E*

58290 L=L*LEN*

58300 00=LEN(L*)

58310 RETURN

58998 REM FIND / OPEN

58999 REM F# 49

---S---
60000 FIND 00210
60010 FIND 00211
60020 18 OF 00218*
60030 J=SEG(0021,3)
60040 IF J#-105 THEN 60300
60050 INPUT 002161A
60060 IF 0021 THEN 60140
60070 00218*
60080 DIM 00210
60090 J=SEG(0021,10)
60100 00210
60110 DIM 00210
60120 IF 0021 THEN 60170
60130 00 TO 60050
60140 PRINT "ERROR *** FILE 'F#': NOT FOUND"

```

60150 PRINT Q2;2;
60160 END
+11111+
60170 JS=SEG(Q4;1,3)
60180 NY=VAL(JS)
60190 FIND Q2;0
60200 FIND Q2;0
60210 INPUT Q2;B4
60220 JS=SEG(Q4;1,F)
60230 IF JS F$ THEN 60260
60240 RETURN
+11111+
60250 PRINT "File does not match internal name."
60270 PRINT "Index name=";IF$; " Internal name=";IJ$
+11111+
60280 PRINT Q2;2;
60290 END
+11111+
60300 PRINT "Type in external drive is not a IDS Data Tape."
60310 GO TO 60280
60978 REM Define and Write Plot File
60999 REM M$,L$,X$,Y$,D$,F$,F6

```

```

---2---
61000 DIM F$(3)
61010 F1="000."
61020 FIND Q2;0
61030 FIND Q2;1
61040 INPUT Q2;A4
61050 IF A4=2 THEN 61120
61060 INPUT Q2;H$
61070 A4=SEG(H$;4,6)
61080 Q1="F$;H$
61090 IF A4=04 THEN 61040
61100 F4=SEG(Q1;10,2)
61110 GO TO 61040
61120 L=VAL(Q4)
61130 L3=1073
61140 F4=SEG(L3)
61150 F1="F$;H$
61160 F1=F4F$
61170 REM update index
61180 A4=SEG(Q4;1,3)
61190 T3=VAL(A4)
61200 T3=1+T3
61210 T3=.
61220 PRINT Q2; USING 61230;T3,F4,"Y",I$
61230 IMGL 30;10A;1A;20A
61240 PRINT Q2;2;
61250 FIND Q2;0
61260 FIND Q2;T3
61270 M4=Q2;1+2500
61280 FIND Q2;0
61290 FIND Q2;T3
61300 PRINT Q2; USING 61310;F4,D$,U$
61310 IMGE 10A;8A;8A
61320 PRINT Q2;L4
61330 PRINT Q2;X$
61340 PRINT Q2;Y$
61350 PRINT Q2;H$

```



```

61360 PRINT #02:104
61370 PRINT #02:11
61380 DIM X2(F(8)),Y2(F(8))
61390 PRINT #02:12,Y2
61400 PRINT #02:12
61405 GOTO 61410
61410 DIM X2(32),Y2(32)
61410 REM update #lotfiles
61420 F1="PLUFILES"
61430 GOSUB 60000
61440 INPUT #02:13:A
61450 IF A=2 THEN 61480
61460 INPUT #02:14
61470 GO TO 61440
61480 PRINT #02:13
61490 PRINT #02:12
61500 RETURN

```

```

++111++

```

```

++111++

```

```

100 INIT
110 DATA 33,11,32
120 READ U1,U2,U3
130 DIM A$(8),U$(8)
140 DIM I7(40)
150 DATA 12.706,4.303,3.182,2.776,2.579,2.451,2.366,2.307,2.262,2.228
160 DATA 2.201,2.179,2.16,2.145,2.131,2.12,2.11,2.101,2.093,2.086,2.08
170 DATA 2.074,2.069,2.064,2.06,2.056,2.052,2.049,2.046,2.043,2.04
180 DATA 2.037,2.035,2.033,2.03,2.028,2.027,2.025,2.023,2.022
190 READ I7
200 FIND U2:0
210 FIND U2:2
220 INPUT U03,6:A
230 IF A=1 THEN 2050
240 INPUT U03:U$,U$
250 DIM H1(20),I1(20),T$(40),X$(30),Y$(30),P(34),L$(40),A$(3)
260 PRINT U03,I7:4
270 REM*
280 REM* GET LIST OF FILES TO BE PLOTTED
290 REM*
300 F$="PLOTFILES"
310 GOSUB 3620
320 I=0
330 I=111
340 INPUT U02,6:A
350 IF I=1 AND A=1 THEN 2060
360 INPUT U02:N1(I)
370 INPUT U02,S:I1(2)
380 IF I1(2)=2 THEN 330
390 I1(1)=I
400 REM*
410 REM* START PLOT LOOP
420 REM*
430 FOR I9=1 TO I1(1)
440 FIND U02:0
450 FIND U02:N1(I9)
460 INPUT U02:Z$
470 INPUT U02:IL$
480 INPUT U02:X$
490 INPUT U02:Y$
500 INPUT U02:04$
510 INPUT U02:ID$
520 INPUT U02:IF
530 IF I9>1 THEN 530
535 00=P(I,2)
540 IF P(8)=0 THEN 2040
550 PRINT X,Y
560 DIM X$(P(8)),Y$(P(8))
570 N=P(8)
580 INPUT U02:X,Y
590 REM*
600 REM* SET DEFAULT PLOT PARAMETER

```

```

600 REM T(4)=MIN X VALUE OF GRAPH      T(5)=LENGTH OF X AXIS
610 REM T(14)=MIN Y VALUE             T(15)=LENGTH OF Y AXIS

+++++
620 VIEWPORT 0,150,0,100
630 WINDOW 0,150,0,100
640 T=0
650 T(1)=P(8)
660 T(2)=2
670 T(3)=4
680 T(4)=10
690 T(5)=70
700 T(8)=1
710 T(9)=1
720 T(14)=25
730 T(15)=70
740 T(18)=1
750 T(19)=1

760 REM LABEL PLOT
770 REM TITLE GRAPH

780 X0=T(5)/2+T(4)-LEN(L$)*7/8
790 Y0=97
800 PAGE
810 MOVE PU3:X0,Y0
820 PRINT PU3:L$

830 REM PUMP X AXIS TITLE

840 X0=T(5)/2+T(4)-LEN(X$)*7/8
850 Y0=T(14)-10
860 MOVE PU3:X0,Y0
870 PRINT PU3:X$

880 REM PUMP Y AXIS LABEL

890 X0=3
900 Y0=T(15)/2+T(14)+LEN(Y$)*10/7
910 MOVE PU3:X0,Y0
920 PRINT PU3:Y$
930 FOR Z=1 TO LEN(Y$)
940   Z=SEG(Y$,Z,1)
950   PRINT PU3:Z$
960 NEXT Z

970 REM DISPLAY INFO ON RIGHT SIDE OF PLOT

980 X0=T(4)+T(5)+5
990 Y0=T(14)+T(15)-2
1000 MOVE PU3:X0,Y0
1010 PRINT PU3:"AGENT: "A$
1020 Y0=Y0-5
1030 MOVE PU3:X0,Y0
1040 PRINT PU3:"DATE: "D$
1050 Y0=Y0-5
1060 MOVE PU3:X0,Y0
1070 PRINT PU3:"STATISTICS"
1080 MOVE PU3:X0,Y0-0.5
1090 PRINT PU3:-----
1100 Y0=Y0-4

```

```

1110 T9=2
1120 IMAGE FA,20.30,FA,S
1130 Y0=Y0-3
1140 MOVE EU3:X0,Y0
1150 PRINT EU3:"BARTLETT'S:"
1160 Y0=Y0-3
1170 MOVE EU3:X0+19,Y0
1180 PRINT EU3: USING 1120:"P(14)!"
1190 IF F(20)=0 THEN 1210
1200 PRINT EU3: USING 1120:"P(20)!"
1210 Y0=Y0-3
1220 IMAGE FA,20.30
1230 MOVE EU3:X0,Y0
1240 PRINT EU3:"R-SQUARED:"
1250 Y0=Y0-3
1260 MOVE EU3:X0+19,Y0
1270 PRINT EU3: USING 1220:"P(23)"
1280 IMAGE FA,3E
1290 Y0=Y0-3
1300 MOVE EU3:X0,Y0
1310 PRINT EU3:"MSE1:"
1320 Y0=Y0-3
1330 MOVE EU3:X0+19,Y0
1340 PRINT EU3: USING 1280:"P(27)"
1350 Y0=Y0-6
1360 MOVE EU3:X0,Y0
1370 PRINT EU3:"PARAMETERS"
1380 MOVE EU3:X0,Y0-0.5
1390 PRINT EU3:
1400 Y0=Y0-4
1410 IMAGE FA,30.20,FA,20.30,FA,S
1420 MOVE EU3:X0,Y0
1430 GO TO F(3) OF 1480,1450,1510

1440 REM case 2 Y=ln(Y)
1450 PRINT EU3:"ln(Y)=a+bX"
1460 GO TO 1520

1470 REM case 1 X=ln(X)
1480 PRINT EU3:"Y=a+b ln(X)"
1490 GO TO 1520

1500 REM case 3 no transform
1510 PRINT EU3:"Y=a+bX"
1520 Y0=Y0-3
1530 MOVE EU3:X0+19,Y0
1540 PRINT EU3: USING 1280:"a="P(4)
1550 Y0=Y0-3
1560 MOVE EU3:X0+19,Y0
1570 PRINT EU3: USING 1280:"b="P(5)
1580 IF F(7)=0 THEN 1720
1590 Y0=Y0-3
1600 MOVE EU3:X0+19,Y0
1610 MOVE EU3:X0,Y0
1620 PRINT EU3:"5(X) = c(X + e)"
1630 Y0=Y0-3
1640 MOVE EU3:X0+19,Y0

```

```

1650 PRINT Q3: USING 1280: "c = ", P(6)
1660 Y0=Y0-3
1670 MOVE Q3: X0+19, Y0
1680 PRINT Q3: USING 1200: "d = ", P(7)
1690 Y0=Y0-3
1700 MOVE Q3: X0+19, Y0
1710 PRINT Q3: USING 1280: "e = ", P(30)
1720 Y0=Y0-3
1730 MOVE Q3: X0, Y0
1732 IF P(3) < 2 THEN 1740
1734 PRINT Q3: "Y' = f - Y."
1736 GO TO 1750
1740 PRINT Q3: "Y' = (Y + f) ^ 3."
1750 Y0=Y0-3
1760 MOVE Q3: X0, Y0
1770 PRINT Q3: "X' = X + h."
1780 Y0=Y0-3
1790 MOVE Q3: X0+19, Y0
1800 PRINT Q3: USING 1280: "f = ", P(31)
1810 Y0=Y0-3
1820 MOVE Q3: X0+19, Y0
1825 IF P(3) < 2 THEN 1850
1830 PRINT Q3: USING 1280: "g = ", P(29)
1840 Y0=Y0-3
1850 MOVE Q3: X0+19, Y0
1860 PRINT Q3: USING 1280: "h = ", P(32)
1870 MOVE Q3: (4)+1(5)+1(14)
1880 DRAW Q3: (4)+1(5)+1(14)+1(15)
1890 DRAW Q3: (4)+1(14)+1(15)
1900 GOSUB 3000
1910 IF U3=1 THEN 1980
1920 PRINT "RLJ."
1930 PRINT "DO YOU WANT A PLOTTER PLOT OF THIS PLOT (Y/N)."
1940 INPUT B1
1950 IF B1="Y" THEN 1980
1960 U3=10
1970 GO TO 620
1980 U3=32
1990 GO TO 2000
2000 NEXT I9
2010 REM
2020 FIND 4
2030 OLD
2040 PRINT "NO DATA SETS FOUND ON THIS TAPE."
2050 END
2060 PRINT "THERE ARE NO PLOT FILES CURRENTLY QUEUED TO BE PRINTED."
2070 END
2080 FLOW
2090 SEARCH PLOT SUBROUTINES
2100 REM
2110 REM
2120 U9=4
2130 GOSUB 3160
2140 U9=14

```

```

2150 GOSUB 3160
2160 U0=4
2170 Y0=Y0-5
2180 MOVE EU3:X0,Y0
2190 PRINT EU3:SCALE FACTORS!
2200 MOVE EU3:X0,Y0-0.5
2210 PRINT EU3:
2220 Y0=Y0-4
2230 MOVE EU3:X0,Y0
2240 PRINT EU3:X axis: 10**JX2
2250 Y0=Y0-3
2260 MOVE EU3:X0,Y0
2270 PRINT EU3:Y axis: 10**JY2
2280 VIEWPORT T(4),T(4)+T(5),T(14),T(14)+T(15)
2290 WINDOW T(6),T(6)+T(7),T(16),T(16)+T(17)
2300 AXIS EU3:T(8),T(18)
2310 J=1
2320 R2=1(18)/(T(17)/T(15))
2330 R3=T(14)
2340 U3=SRT(T(16)+(J-1)*T(18))
2350 PRINT EU3:21:0 MAX T(4)-(LEN(U3)+1)*1.78*R3-0.89
2360 PRINT EU3:U3
2370 IF J=1(19) THEN 2410
2380 R3=R3+R2
2390 J=1+J
2400 GO TO 2340
2410 R2=T(8)/(T(7)/T(5))
2420 R3=T(4)
2430 J=1
2440 U3=SRT(T(6)+(J-1)*T(8))
2450 PRINT EU3:21:0 MAX R3-(LEN(U3)+1)*1.78*0.5*T(14)-4
2460 PRINT EU3:U3
2470 IF J=1(9) THEN 2510
2480 R3=R3+R2
2490 J=1+J
2500 GO TO 2440
2510 FOR J=1 TO T(1)
2520 IF T(2)<1 THEN 2540
2530 IF J=1 THEN 2560
2540 MOVE EU3:X(J),Y(J)
2550 GO TO 2570
2560 DRAW EU3:X(J),Y(J)
2570 GOSUB 2600
2580 NEXT J
2590 RETURN

```

```

2600 S2=T(14)/T(14)+0.75
2610 S1=T(4)/T(4)+0.75
2620 GO TO T(3) OF 2910,2640,2700,2770,2840
2630 GO TO 2910
2640 DRAW EU3:0,S2
2650 DRAW EU3:S1,-2*S2
2660 DRAW EU3:-2*S1,0
2670 DRAW EU3:S1,2*S2
2680 DRAW EU3:0,-S2
2690 RETURN
2700 DRAW EU3:0,S2
2710 DRAW EU3:0,-2*S2
2720 DRAW EU3:0,S2

```

```

2730 KRWAW P03:51.0
2740 KRWAW P03:2451.0
2750 KRWAW P03:51.0
2760 RETURN
2770 KRWAW P03:51.52
2780 KRWAW P03:10.2452
2790 KRWAW P03:2451.0
2800 KRWAW P03:10.2452
2810 KRWAW P03:12451.0
2820 KRWAW P03:51.52
2830 KRWAW P03:10.52
2840 KRWAW P03:51.52
2850 KRWAW P03:51.52
2860 KRWAW P03:51.52
2870 KRWAW P03:51.52
2880 KRWAW P03:51.52
2890 KRWAW P03:10.52
2900 RETURN
2910 IF T(2)=1 THEN 2930
2920 KRWAW P03:10.0
2930 RETURN

```

```

2940 Y2=0
2950 T(16)=10^39
2960 T(17)=-T(22)
2970 FOR J=1 TO T(1)
2980 T(16)=T(16) MIN Y(J)
2990 T(17)=T(17) MAX Y(J)
3000 NEXT J
3010 T(17)=T(17)-T(16)
3020 T(17)=T(17)*T(19)+T(19)=0
3030 IF T(17) THEN 5300
3040 RETURN

```

```

3050 X2=0
3060 T(6)=10^39
3070 T(7)=-T(12)
3080 FOR J=1 TO T(1)
3090 T(6)=T(6) MIN X(J)
3100 T(7)=T(7) MAX X(J)
3110 NEXT J
3120 T(7)=T(7)-T(6)
3130 T(7)=T(7)*T(19)+T(19)=0
3140 IF T(7) THEN 5350
3150 RETURN

```

```

3160 HIM S0(5)
3170 S0(3)=INTC (U911)/15)
3180 S0(3)=1(U913)/S0(3)
3190 S0(4)=INT(ABS(S0(3))) *SGN(LGT(S0(3)))
3200 S0(4)=INT(10^S0(4)+1.0E-4)
3210 IF S0(4) THEN 3250
3220 S0(3)=1
3230 S0(4)=1
3240 GO TO 3130
3250 S0(5)=S0(3)/S0(4)
3260 S0(3)=S0(4)*10

```

```

3270 IF S0(5)>10 THEN 3290
3280 S0(3)=S0(4)*5
3290 IF S0(5)=25 THEN 3310
3300 S0(3)=S0(4)*2
3310 IF S0(5)=22 THEN 3330
3320 S0(3)=S0(4)
3330 S0(5)=1*(U9+2)/S0(3)
3340 IF S0(5)=0 THEN 3360
3350 S0(5)=S0(5)-0.9999
3360 S0(1)=S0(2)*(INT(ABS(S0(5))))*SGN(S0(5)))
3370 S0(5)=1*(U9+3)/S0(3)
3380 IF S0(5)=0 THEN 3400
3390 S0(5)=S0(5)+0.9999
3400 S0(2)=S0(3)*(INT(ABS(S0(5))))*SGN(S0(5)))
3410 S0(5)=S0(2)-S0(1)
3420 S0(4)=INT(INT(ABS(S0(5))))*SGN(S0(5))/S0(3)
3430 IF S0(5)=1 THEN 3460
3440 S0(3)=S0(5)
3450 S0(4)=1
3460 IF S0(3)=1 THEN 3490
3470 S0(3)=S0(5)
3480 S0(4)=1
3490 T(U9+2)=S0(1)
3500 T(U9+3)=S0(2)-S0(1)
3510 T(U9+4)=S0(3)
3520 T(U9+5)=S0(4)
3530 T(U9+6)=1.75*T(U9+3)/T(U9+1)
3540 RETURN

```

```

1--- 3620 REM FIND/OPEN
3630 REM* (F1,N9)
3640 FIND Q02:0
3650 FIND Q02:1
3660 INPUT Q02:105
3670 J1=SEG(Q02:1,3)
3680 IF J1<105 THEN 3970
3690 INPUT Q02:6:1A
3700 IS A=1 THEN 3780
3710 INPUT Q02:105
3720 DIM J$(10)
3730 J1=SEG(Q02:4,10)
3740 F=LEN(F$)
3750 DIM J$(F)
3760 IF J1=F THEN 3820
3770 GO TO 3690

```

```

3780 REM$
3790 PRINT "ERROR *** FILE 'F$' NOT FOUND"
3800 CLOSE
3810 END
3820 J1=SEG(F$,1,3)
3830 J2=SEG(J1,3)
3840 FIND Q02:10
3850 FIND Q02:105
3860 INPUT Q02:105
3870 DIM J$(10)

```


3900 34-SIG(09),1,10)

3970 F-11(015)

3990 DIM J(40)

3910 IF J=1 THEN 3930

3920 RETURN

1111111 3930 PRINT "FILE DOES NOT MATCH INTERNAL NAME"

3940 PRINT "INTERNAL NAME =";I\$;"INTERNAL NAME =";J\$

3950 GOTO 3972

3960 END

1111111 3970 PRINT "DATA TAPE IN EXTERNAL TAPE UNIT IS NOT A IDS DATA TAPE"

3980 PRINT "00122"

3990 END

-1--- 4000 REMS PLOT DATA, CURVE AND CONFIDENCE LIMITS

4010 COSUR 2940

4020 COSUR 3070

4050 REMS ADJUST X RANGE

4060 I(6)=I(6)*0.187(7)

4070 I(6)=I(6) MAX 0.0187(7)

4080 I(7)=I(7)*1.2

4090 REMS ADJUST Y-RANGE

4100 I(16)=I(16)*0.0587(17)

4110 I(16)=I(16) MAX 0.0187(17)

4120 I(17)=I(17)*1.1

4130 REMS PLOT DESIRED DATA

4140 GOSUB 7110

4150 REMS

4160 REMS READ SUBROUTINE AND LOWER CONFIDENCE LIMITS

4170 REMS

4180 REM I(16)=I(16)*0.0187(17)

4190 Y0=I(16)

4200 COSUR 4090

4210 POC 20330*10^{-Y2}, I(16)*10^{-Y2}

4220 FOR Y5=I(16) TO I(16)+I(17) STEP I(17)/100

4230 Y0=Y5

4240 GOTO 4620

4250 POCJ POCJ*10^{-Y2}, Y5*10^{-Y2}

4260 NEXT Y5

4270 TO I(16)

4280 FOR Y6=4070

4290 TO I(16)

4300 FOR Y7=1(16)

4310 FOR Y8=4070

4320 POCJ POCJ*10^{-Y2}, Y7, I(16)*10^{-Y2}

4330 NEXT Y7

4340 NEXT Y6

4350 FOR Y9=I(16) TO I(16)+I(17) STEP I(17)/100

4360 IF I(16)-2 AND I(16)+I(17) THEN 4470

4370 Y0=Y9

4555 PF 4 (3)-2 A-41 YO-3F(31) THEN 4932

W. C. Cullen, 1961-1962, 1963

Office of the
Director
Department of
Education
Washington, D.C.

[illegible]

100

0764 47:41 1 11:24 4920

(C) 1994 - C. C. C. C.

1950年 4月 20日

7
2
1
1
1
2
1

...

11-12-78

11

100

—

100

—

1970

1971

	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	[\]	^	_	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	{	}	~	.	,	:	;	'	"	#	\$	%	&	*	+ =	-	/	< =>	>	?@ABCD EFGHIJ KLMNOP QRSTUV WXYZ[\] ^ _` abcde fghijk lmnop qrstu vwxyz																	

6-1609 13-6

63-1017

WATSON & WATSON

10-10-1961 (131) 17.32

THE NATIONAL TRANSFORMATION

0765 N301 2-11-41 (100)

COX-2 (13) and COX-1 (14) (Fig. 1).

[illegible][illegible][illegible][illegible]

— — — — —

100-10344-1344 (10) 4A.

0515 4811 0-544 41 1-10

CL22 KEM EFNOK KUTLINE

61-013147-3-01

[illegible]

100

11/1/44

[illegible]

10-11-68

1994 [overseas] Yearbook

[illegible]

1 (5) 41 C. 27.

```

0011111 5100 10-X0-P(32)
5190 X0-(B1-B3)/A1
5200 REM4 Inverse Functional transform
5210 IF P(3) > 1 THEN 5230
5220 X0=EXP(X0)
0011111 5230 L0=X0-P(32)
5230 RETURN
5290 REM scale X & Y for plot
0011111 5300 FOR J=1 TO T(1)
5310 Y(J)=10*Y(J)
5320 NEXT J
5330 Y2=Y2-1
5340 GO TO 2950
0011111 5350 FOR J=1 TO T(1)
5360 X(J)=10*X(J)
5370 NEXT J
5380 X2=X2-1
5390 GO TO 3060

```

```

100 INIT
101 PRINT #32,26:0
102 SET DEGNEES
103 DATA 33,11,32
104 KCAD 01,02,03
105 KCAD 04,05,06
106 Y1(31),Y2(31),Y3(31),X(31),Y(31),X9(31)
107 Y4(31),Y5(31),Y6(31),Y7(31),Y8(31),Y9(31)
108 Y10(31),Y11(31),Y12(31),Y13(31),Y14(31),Y15(31)
109 Y16(31),Y17(31),Y18(31),Y19(31),Y20(31),Y21(31)
110 Y22(31),Y23(31),Y24(31),Y25(31),Y26(31),Y27(31)
111 Y28(31),Y29(31),Y30(31),Y31(31),Y32(31),Y33(31)
112 Y34(31),Y35(31),Y36(31),Y37(31),Y38(31),Y39(31)
113 Y40(31),Y41(31),Y42(31),Y43(31),Y44(31),Y45(31)
114 Y46(31),Y47(31),Y48(31),Y49(31),Y50(31),Y51(31)
115 Y52(31),Y53(31),Y54(31),Y55(31),Y56(31),Y57(31)
116 Y58(31),Y59(31),Y60(31),Y61(31),Y62(31),Y63(31)
117 Y64(31),Y65(31),Y66(31),Y67(31),Y68(31),Y69(31)
118 Y70(31),Y71(31),Y72(31),Y73(31),Y74(31),Y75(31)
119 Y76(31),Y77(31),Y78(31),Y79(31),Y80(31),Y81(31)
120 Y82(31),Y83(31),Y84(31),Y85(31),Y86(31),Y87(31)
121 Y88(31),Y89(31),Y90(31),Y91(31),Y92(31),Y93(31)
122 Y94(31),Y95(31),Y96(31),Y97(31),Y98(31),Y99(31)
123 Y100(31),Y101(31),Y102(31),Y103(31),Y104(31),Y105(31)
124 Y106(31),Y107(31),Y108(31),Y109(31),Y110(31),Y111(31)
125 Y112(31),Y113(31),Y114(31),Y115(31),Y116(31),Y117(31)
126 Y118(31),Y119(31),Y120(31),Y121(31),Y122(31),Y123(31)
127 Y124(31),Y125(31),Y126(31),Y127(31),Y128(31),Y129(31)
128 Y130(31),Y131(31),Y132(31),Y133(31),Y134(31),Y135(31)
129 Y136(31),Y137(31),Y138(31),Y139(31),Y140(31),Y141(31)
130 Y142(31),Y143(31),Y144(31),Y145(31),Y146(31),Y147(31)
131 Y148(31),Y149(31),Y150(31),Y151(31),Y152(31),Y153(31)
132 Y154(31),Y155(31),Y156(31),Y157(31),Y158(31),Y159(31)
133 Y160(31),Y161(31),Y162(31),Y163(31),Y164(31),Y165(31)
134 Y166(31),Y167(31),Y168(31),Y169(31),Y170(31),Y171(31)
135 Y172(31),Y173(31),Y174(31),Y175(31),Y176(31),Y177(31)
136 Y178(31),Y179(31),Y180(31),Y181(31),Y182(31),Y183(31)
137 Y184(31),Y185(31),Y186(31),Y187(31),Y188(31),Y189(31)
138 Y190(31),Y191(31),Y192(31),Y193(31),Y194(31),Y195(31)
139 Y196(31),Y197(31),Y198(31),Y199(31),Y200(31),Y201(31)
140 Y202(31),Y203(31),Y204(31),Y205(31),Y206(31),Y207(31)
141 Y208(31),Y209(31),Y210(31),Y211(31),Y212(31),Y213(31)
142 Y214(31),Y215(31),Y216(31),Y217(31),Y218(31),Y219(31)
143 Y220(31),Y221(31),Y222(31),Y223(31),Y224(31),Y225(31)
144 Y226(31),Y227(31),Y228(31),Y229(31),Y230(31),Y231(31)
145 Y232(31),Y233(31),Y234(31),Y235(31),Y236(31),Y237(31)
146 Y238(31),Y239(31),Y240(31),Y241(31),Y242(31),Y243(31)
147 Y244(31),Y245(31),Y246(31),Y247(31),Y248(31),Y249(31)
148 Y250(31),Y251(31),Y252(31),Y253(31),Y254(31),Y255(31)
149 Y256(31),Y257(31),Y258(31),Y259(31),Y260(31),Y261(31)
150 Y262(31),Y263(31),Y264(31),Y265(31),Y266(31),Y267(31)
151 Y268(31),Y269(31),Y270(31),Y271(31),Y272(31),Y273(31)
152 Y274(31),Y275(31),Y276(31),Y277(31),Y278(31),Y279(31)
153 Y280(31),Y281(31),Y282(31),Y283(31),Y284(31),Y285(31)
154 Y286(31),Y287(31),Y288(31),Y289(31),Y290(31),Y291(31)
155 Y292(31),Y293(31),Y294(31),Y295(31),Y296(31),Y297(31)
156 Y298(31),Y299(31),Y300(31),Y301(31),Y302(31),Y303(31)
157 Y304(31),Y305(31),Y306(31),Y307(31),Y308(31),Y309(31)
158 Y310(31),Y311(31),Y312(31),Y313(31),Y314(31),Y315(31)
159 Y316(31),Y317(31),Y318(31),Y319(31),Y320(31),Y321(31)
160 Y322(31),Y323(31),Y324(31),Y325(31),Y326(31),Y327(31)
161 Y328(31),Y329(31),Y330(31),Y331(31),Y332(31),Y333(31)
162 Y334(31),Y335(31),Y336(31),Y337(31),Y338(31),Y339(31)
163 Y340(31),Y341(31),Y342(31),Y343(31),Y344(31),Y345(31)
164 Y346(31),Y347(31),Y348(31),Y349(31),Y350(31),Y351(31)
165 Y352(31),Y353(31),Y354(31),Y355(31),Y356(31),Y357(31)
166 Y358(31),Y359(31),Y360(31),Y361(31),Y362(31),Y363(31)
167 Y364(31),Y365(31),Y366(31),Y367(31),Y368(31),Y369(31)
168 Y370(31),Y371(31),Y372(31),Y373(31),Y374(31),Y375(31)
169 Y376(31),Y377(31),Y378(31),Y379(31),Y380(31),Y381(31)
170 Y382(31),Y383(31),Y384(31),Y385(31),Y386(31),Y387(31)
171 Y388(31),Y389(31),Y390(31),Y391(31),Y392(31),Y393(31)
172 Y394(31),Y395(31),Y396(31),Y397(31),Y398(31),Y399(31)
173 Y400(31),Y401(31),Y402(31),Y403(31),Y404(31),Y405(31)
174 Y406(31),Y407(31),Y408(31),Y409(31),Y410(31),Y411(31)
175 Y412(31),Y413(31),Y414(31),Y415(31),Y416(31),Y417(31)
176 Y418(31),Y419(31),Y420(31),Y421(31),Y422(31),Y423(31)
177 Y424(31),Y425(31),Y426(31),Y427(31),Y428(31),Y429(31)
178 Y430(31),Y431(31),Y432(31),Y433(31),Y434(31),Y435(31)
179 Y436(31),Y437(31),Y438(31),Y439(31),Y440(31),Y441(31)
180 Y442(31),Y443(31),Y444(31),Y445(31),Y446(31),Y447(31)
181 Y448(31),Y449(31),Y450(31),Y451(31),Y452(31),Y453(31)
182 Y454(31),Y455(31),Y456(31),Y457(31),Y458(31),Y459(31)
183 Y460(31),Y461(31),Y462(31),Y463(31),Y464(31),Y465(31)
184 Y466(31),Y467(31),Y468(31),Y469(31),Y470(31),Y471(31)
185 Y472(31),Y473(31),Y474(31),Y475
```

210 REM* GET LIST OF FILES TO BE PLOTTED
211 REM*
212 REM*

[illegible]

```

208 INPUT Q02:04
209 INPUT Q02:0,P(25),P(26),P(28)
200 N2=N2+1
310 IF N9-N2 THEN 321
320 GO TO 270
321 F5=0
++1++
322 IF P(28)=4 THEN 330
323 PRINT "IS THIS THE FIRST STAT RUN FOR TODAY? (Y/N):"
324 INPUT A$
325 IF A$="Y" THEN 330
326 F5=1
++2++
330 REM* SET X LABEL
350 N1=SEG(U$,4,2)
355 REM* SET X LABEL
360 A1=SEG(U$,1,2)
361 A=VAL(A1)
362 A=(A-1)*9+1
363 X1=SEG(C$,A,9)
370 REM* GET HISTORY Q
372 RESTORE 301
375 I1="H0"IN1
380 GOSUB 4045
381 DATA 0,0,0,0
382 READ F1,F2,F3,F4
390 INPUT Q02:04,Y9,M9,U9,L9,Y8,M8,U8,L8
395 INPUT Q02:04,W9,F1,F2,F3,F4
400 FOR I=1 TO 31
401 X0(I)=I
420 NEXT I
430 H0=VAL(H1)
415 N1=F(28)*F5*N1
416 F1=0
417 F3=0
420 REM* H9(U8)=(H9(U7)*(N-1)+P(25))/K
430 REM* H8(U8)=(H8(U7)*(N-1)+P(26))/K
440 Y9(U8)=P(25)*F5*Y9(U8)
450 Y8(U8)=P(26)*F5*Y8(U8)
460 IF N1=4 THEN 551
461 PRINT "NO QC PLOT WILL BE PRODUCED FOR 'H9' AT LEVEL 'F5'."
462 PRINT "SINCE FOUR QC DATA POINTS ARE NOT YET AVAILABLE."
463 GO TO 1080
465 GO TO 551
470 U9=M9(U8)+A1(N1)*H8(U8)
480 U8=M9(U8)+A1(N1)*H8(U8)
490 U7=VAL(U8)
500 U6=M9(U7)+A1(N1)*H8(U7)
510 U5=M9(U7)+A1(N1)*H8(U7)
520 U4=M9(U7)+A1(N1)*H8(U7)
530 U3=M9(U7)+A1(N1)*H8(U7)
540 U2=M9(U7)+A1(N1)*H8(U7)
550 U1=M9(U7)+A1(N1)*H8(U7)

```

```

111111 551 REM* SET WARNING FLAGS
552 IF NOT(Y9(D8)/Y9(D8) OR Y9(D8)<L9(D8)) THEN 554
553 F1=1
111111 554 IF NOT(Y8(D8)/Y8(D8) OR Y8(D8)<L8(D8)) THEN 556
555 F3=1
111111 556 REM* ZERO OUT DATA FROM D7 TO D8
557 IF D7=D8 THEN 573
558 I=D7
559 IF D8=D7 THEN 562
561 I=0
562 I=I+1
563 IF I=D8 THEN 573
564 Y9(I)=1
565 Y8(I)=1
566 GO TO 562
111111 573 REM*
620 REM* UPDATE WARNING
621 F2=0
622 F2=0
623 FOR I=5 TO 1 STEP -1
630 280(I+1)=UB(I)
640 W9(I+1)=W9(I)
650 NEXT I
660 IF Y9(D8)>W9(D8) THEN 690
670 W9(I)=1
680 GO TO 700
111111 690 W9(I)=1
111111 700 IF Y8(D8)>WB(D8) THEN 730
710 WB(I)=1
720 GO TO 740
730 WB(I)=1
111111 740 FOR I=1 TO 7
750 F2=F2+W9(I)
760 F4=F4+WB(I)
770 NEXT I
771 F2=ABS(F2)
772 F4=ABS(F4)
780 REM* PLOT QC CHARTS
790 E1=ACCURACY CONTROL CHART FOR "1M"
810 Y1=
820 W1=
900 Y1=L9
910 Y2=W9
920 Y3=D9
930 X=X9
940 Y=Y9
950 D=D9
960 IF NOT(F1=1 OR F2=7) THEN 950
970 W1=WARNING - PROCESS IS OUT OF CONTROL
111111 950 REM* GO SUB PLOT
955 GO SUB 1775

```

```

956 PRINT "CNJ"
960 IF U3=10 THEN 967
961 PRINT "DO YOU WANT A 4662 PLOT? (Y/N)"
962 INPUT B$
963 A$=SEG(B$,1,1)
964 IF A$<>"Y" THEN 967
965 U3=10
966 GOSUB 1775
967 U3=12
970 E$="PRECISION CONTROL CHART FOR "
971 U4=" "
972 Y=YB
1000 Y1=L8
1010 Y2=H8
1020 Y3=U8
1025 U=U8
1030 IF NOT(F3=1) THEN 1050
1040 W$="WARNING - PROCESS IS OUT OF CONTROL"

```

```

1050 REM# GOSUB PLOT
1055 GOSUB 1775
1056 PRINT "CNJ"
1060 IF U3=10 THEN 1067
1061 PRINT "DO YOU WANT A 4662 PLOT? (Y/N)"
1062 INPUT B$
1063 A$=SEG(B$,1,1)
1064 IF A$<>"Y" THEN 1067
1065 U3=10
1066 GOSUB 1775
1067 U3=12

```

```

1070 REM# UPDATE HISTORY O FILE
1080 F$="HQ"
1090 GOSUB 4845
1100 PRINT "U2:K1,U0,X9,Y9,M9,U9,L9,Y8,M8,U8,L8"
1110 PRINT "U2:UB,W9,F1,F2,F3,F4"
1120 PRINT "U2:Z"
1130 GO TO 230

```

```

1755 REM#
1760 REM# QC PLOT ROUTINES
1765 REM#

```

```

---4--- 1775 DIM W$(60),J$(60)
1785 DIM X$(31),Y$(31),Y3(31),Y(24)
2000 PAGE

```

```

2005 REM# HEIGHT OF SPACE
2015 HG=2.82
2025 REM# HEIGHT OF CHARACTER
2035 H1=1.88
2045 REM# WIDTH OF SPACE

```



```

2005 H2=1.79
2095 REM WIDTH OF CHARACTER
2105 H3=1.55
2115 REM HEIGHT OF TIC MARK
2125 H4=1
2135 REM WIDTH OF TIC MARK
2145 H5=2
2155 VIEWPORT 0,130,0,100
2165 WINDOW 0,130,0,100
2175 REM X MIN
2185 T(4)=15
2195 REM X DOMAIN
2205 T(5)=105
2215 REM Y MIN
2225 T(14)=10
2235 REM Y RANGE
2245 T(15)=75
2255 REM BOX GRAPH
2265 MOVE @U3:T(4),T(14)
2275 DRAW @U3:T(4),T(14),T(14),T(15)
2285 DRAW @U3:T(4),T(5),T(14),T(15)
2295 DRAW @U3:T(4),T(5),T(14)
2305 DRAW @U3:T(4),T(14)
2315 REM MAKE TIC MARKS ON X AXIS
2325 FOR I=0 TO 34 STEP 2
2335 MOVE @U3:T(4)+I*3,T(14)+H4/2
2345 DRAW @U3:I,-H4
2355 REM LABEL THE MARK
2365 MOVE @U3:I-H2,-H0
2370 IF I=0 OR I=31 THEN 2405
2375 IF I=10 THEN 2395
2385 MOVE @U3:I-H2,0
2395 PRINT @U3:I
2405 NEXT I
2415 REM PRINT OUT WARNING
2420 A=LEN(W3)
2421 Y0=96

```

```

2423 IF A=2 THEN 2535
2425 X0=T(4)+(T(5)-LEN(W)*H2)/2
2435 Y0=96
2445 MOVE @U3:0,Y0
2455 PRINT @U3:W$
2465 REM DRAW @U3:BOX AROUND WARNING
2475 MOVE @U3:X0-H2/2,Y0-H0/3
2485 RDRAW @U3:0,5*H0/3
2495 RDRAW @U3:(LEN(W)+1)*H2,0
2505 RDRAW @U3:0,-5*H0/3
2515 RDRAW @U3:(LEN(W)+1)*H2,0
2525 REM WRITE TITLE
++1++
2535 Y0=Y0-5
2545 X0=T(4)+(T(5)-LEN(E)*H2)/2
2555 MOVE @U3:X0,Y0
2565 PRINT @U3:E$
2575 Y0=Y0-3
2585 X0=T(4)+(T(5)-LEN(J)*H2)/2
2595 MOVE @U3:X0,Y0
2605 PRINT @U3:J$
2615 REM PRINT X AXIS LABEL
2625 Y0=T(14)-3*H0
2635 X0=T(4)+(T(5)-LEN(X)*H2)/2
2645 MOVE @U3:X0,Y0
2655 PRINT @U3:X$
2665 REM Y AXIS LABEL
2675 X0=3
2685 Y0=T(14)+(T(15)+LEN(Y)*H0)/2
2695 MOVE @U3:X0,Y0
2705 FOR I=1 TO LEN(Y$) STEP 1
2715  Z$=SEG(Y$,I,1)
2725 PRINT @U3:Z$;JH$
2735 NEXT I
2745 REM END OF PRELIMINARIES NOW DO PLOTS
2746 Y4=Y1(1)
2747 Y5=Y3(1)
2748 I=(Y5-Y4)/2
2749 O0=Y4-I
2750 O1=Y5+I
2751 GO TO 2780
2755 REM SET UP STUFF
2756 Y4=100000
2757 Y5=100000
2760 FOR I=1 TO 31
2759 IF Y(I)=0 THEN 2761
2760 Y4=Y4 MIN Y(I)
2761 IF Y(I)<0 THEN 2763
2762 Y4=Y4 MIN Y(I)

```

```

++11111 2763 Y5=Y5 MAX Y(1)
2764 Y5=Y5 MAX Y3(1)
2765 NEXT I

2770 REM IN HERE GOES CODE TO PICK NEAT ENDPOINTS FOR Y-AXIS

++11111 2780 VIEWPORT T(4),T(4)+T(5),T(14),T(14)+T(15)
2781 WINDOW 0,35,00,01
3015 FOR I=1 TO N STEP 1
2820 IF Y(I)<0 THEN 2045
2821 IF Y(I)>01 THEN 9400
2822 IF Y(I)<00 THEN 9500
2823 MOVE P(3,X(I),Y(I))
2825 GOSUB 3185
2826 NEXT I

++11111 2842 VIEWPORT T(4),T(4)+T(5),0,T(15)
2847 WINDOW 0,35,00,01
2848 G1=SEG(C1,1,3)
2849 MOVE P(3,0,0)
2850 PRINT P(3,0,0)
2851 VIEWPORT T(4),T(4)+T(5),T(14),T(14)+T(15)
2852 WINDOW 0,35,00,01
2855 GOSUB 3000
2856 MOVE P(3,0,Y1(1))
2857 DRAW P(3,25,Y1(1))
2859 MOVE P(3,25,Y3(1))
2859 DRAW P(3,0,Y3(1))
2860 MOVE P(3,0,Y2(1))
2861 DRAW P(3,25,Y2(1))
2862 RETURN
2863 MOVE P(3,0,Y1(1))
2865 FOR I=1 TO N-1 STEP 1
2880 IF Y(I)<0 THEN 2900
2885 DRAW P(3,X(I),Y1(1))
2895 DRAW P(3,0,Y1(I+1)-Y1(1))
2898 GO TO 2905
2900 MOVE P(3,X(I+1),Y(I+1))
2905 NEXT I
2915 DRAW P(3,X(0),Y1(0))
2925 FOR I=1 TO 4
2935 MOVE P(3,0,5,0)
2945 DRAW P(3,0,5,0)
2955 NEXT I

2965 REM DO Y3

2975 MOVE P(3,0,Y3(1))
2985 FOR I=1 TO N-1 STEP 1
2990 IF Y(I)<0 THEN 3015
2995 DRAW P(3,X(I),Y3(I))
3005 DRAW P(3,0,Y3(I+1)-Y3(I))
3010 GO TO 3020
3015 MOVE P(3,X(I+1),Y3(I+1))
3020 NEXT I
3025 DRAW P(3,X(0),Y2(0))
3035 FOR I=1 TO 4 STEP 1
3045 MOVE P(3,0,5,0)
3055 DRAW P(3,0,5,0)
3065 NEXT I

```

3075 REM Y2

```
3085 MOVE @U310,Y2(1)
3095 FOR I=1 TO 6-1 STEP 1
3100 IF Y2(1)<0 THEN 3125
3105 KRW@ @U310.5*0
3115 KRW@ @U310.5*Y2(I+1)-Y2(I)
3120 GO TO 3130
3125 MOVE @U31X(I+1),Y2(I+1)
3130 NEXT I
3135 FOR I=1 TO 5
3145 KRW@ @U310.5*0
3155 KRW@ @U310.5*0
3165 NEXT I
3175 RETURN
```

---1--- 3185 REM THIS CENTERS DIAMONDS

```
3200 KRW@ @U310,-0.01*(01-00)
3205 KRW@ @U310.35*0.01*(01-00)
3210 KRW@ @U31-0.35*0.01*(01-00)
3215 KRW@ @U31-0.35,-0.01*(01-00)
3220 KRW@ @U310.35,-0.01*(01-00)
3225 RETURN
3235 KRW@ @U31X(0),Y(0)
```

---3--- 4845 REM FIND/OPEN
4855 REM (F\$,N9)

```
4860 FIND @U210
4865 FIND @U211
4875 INPUT @U218
4885 J1=SEG(R4,1,3)
4895 IF J1<>"108" THEN 5175
4905 INPUT @U218
4915 IF A=1 THEN 4995
4925 INPUT @U218
4935 DIM J$(13)
4945 J1=SEG(R4,4,10)
4955 F=LEN(F$)
4965 DIM J$(F)
4975 IF J1=F$ THEN 5035
4985 GO TO 4905
```

1+111+ 4995 REM

5005 PRINT "ERROR *** FILE 'F\$' NOT FOUND"

```
5015 CLOSE
5025 FIND 1
5035 DIM J1=SEG(R4,1,3)
5045 N9=VAL(J1)
5050 FIND @U210
5055 FIND @U218
5065 INPUT @U218
5075 DIM J$(10)
```

1+111+ 5075

```

5085 H=SEG(B$,1,10)
5095 F=LEN(F$)
5105 DIM J$(F)
5115 IF J$(F) THEN 5135
5125 RETURN
5135 PRINT "FILE DOES NOT MATCH INTERNAL NAME"
5145 PRINT "INDEX NAME =";F$;"INTERNAL NAME =";J$
5155 PRINT QUS;2;
5165 FLOW 1
5175 OLD
5185 PRINT "DATA TAPE IN EXTERNAL TAPE UNIT IS NOT A IDS DATA TAPE"
5195 PRINT QUS;2;
5195 FLOW 1
5195 OLD

5405 REM$ FLOT OBSERVED DATA
5415 GOSUB 3395
6715 REMARK MU
6720 SET DEGREES
6730 VIEWFOT 0,130,0,100
6740 WINDOW 0,130,0,100
6750 REMHO - PRINTED LINE HEIGHT
6760 REMHI - PRINTED CHARACTER HEIGHT
6770 REMH2 - WIDTH OF SPACE
6780 REMH3 - WIDTH OF A CHARACTER
6790 SO=15
6800 HO=2.02
6810 HI=1.08
6820 H2=1.79
6830 H3=1.55
6840 MOVE QUS;X0+H0/20,Y0+H2/20
6850 RUKAM QUS;H3/50,H1*5/50
6860 FOR I=1 TO 50/2
6870 RUKAM QUS;0,H1/50
6880 NEXT I
6890 FOR I=1 TO 50/2
6900 RUKAM QUS;0,-H1/50
6910 NEXT I
6920 FOR I=0 TO 100 STEP 50*3/2
6930 ROTATE I+270
6940 RUKAM QUS;1/50,0
6950 NEXT I
6960 FOR I=1 TO 50/2
6970 RUKAM QUS;H1/50,0
6980 NEXT I
6990 FOR I=1 TO 50/2
7000 RUKAM QUS;-H1/50,0
7010 NEXT I
7020 FOR I=270 TO 360 STEP 50/2*3
7030 ROTATE I
7040 RUKAM QUS;H1/50,0
7050 NEXT I
7060 MOVE QUS;X0+H2*1.1,Y0+0.1*H0
7070 RETURN

```

7999 KCH*DRAW KHD

8000 SET DEGREES
8010 VIEWPORT 0,130,0,100
8020 WINDOW 0,130,0,100
8030 REM*H0 - PRINTED LINE HEIGHT
8040 REM*H1 - PRINTED CHARACTER HEIGHT
8050 REM*H2 - WIDTH OF SPACE
8060 REM*H3 - WIDTH OF A CHARACTER.

8070 MOVE G03:X0-H1/2,Y0
8080 FOR I=-95 TO 265 STEP 15
8090 ROTATE I
8100 KURAM G03:H3/50*1.3,0,
8110 NEXT I
8120 ROTATE -5
8130 KURAM G03:0,-10*H3/50
8140 RM0VE G03:H3,0
8150 RETURN

8999 REM ROUTINE TO LABEL Y AXIS

9000 REM

9070 L\$=STR(Y1/I)
9080 GOSUB 61600
9090 MOVE G03:0,Y1(I)
9100 FOR I=1 TO 0041
9110 PRINT G03:"H";
9120 NEXT I
9130 PRINT G03:L\$;
9140 L\$=STR(Y2/I)
9150 GOSUB 61600
9160 MOVE G03:0,Y2(I)
9170 FOR I=1 TO 0041
9180 PRINT G03:"H";
9190 NEXT I
9200 PRINT G03:L\$;
9210 L\$=STR(Y3/I)
9220 GOSUB 61600
9230 MOVE G03:0,Y3(I)
9240 FOR I=1 TO 0041
9250 PRINT G03:"H";
9260 NEXT I
9270 PRINT G03:L\$;
9360 RETURN

9400 REM ROUTINE TO DRAW ARROW POINTING UP

9410 MOVE G03:X(I),01
9420 PRINT G03:"J";
9430 GO TO 2045

9500 REM ROUTINE TO DRAW UPSIDE DOWN ARROW

9510 MOVE G03:X(I),00
9520 L\$=CHR(127)
9530 PRINT G03:L\$;

ID SETS MANAGEMENT

Programmed by:
Computer Sciences Corporation
Data Systems Laboratory
NATIONAL SPACE TECHNOLOGY LABORATORY
NSL Station, Mississippi 39529

Version: L - Production

March 10, 1982

```

10 DIM X$(4)
110 PAGE
120 PRINT
130 PRINT
140 PRINT "JJJJJJ"
150 PRINT
160 PRINT
170 PRINT
180 PRINT
190 PRINT
200 PRINT
210 PRINT
220 PRINT
230 PRINT
240 PRINT
250 PRINT
260 PRINT "JJJJ"
270 AS=L
280 AS=L
290 PRINT
300 PRINT
310 PRINT
320 PRINT
330 PRINT
340 PRINT
350 PRINT "PRESS 'RETURN' TO CONTINUE ."
360 INPUT $
370 IF $="" THEN
380 GOTO 2180
390 PAGE
400 PRINT "EXTERNAL LABEL-YES? IS NOT EQUAL TO TAPE LABEL-YES"
410 PRINT "WOULD YOU LIKE TO STOP? (Y/N)."
420 INPUT $
430 IF $="Y" THEN 2100
440 GOTO 2100
450 PRINT
460 PRINT
470 PRINT
480 PRINT
490 PRINT
500 PRINT
510 PRINT
520 PRINT
530 PRINT
540 PRINT
550 PRINT
560 PRINT
570 PRINT
580 PRINT
590 PRINT
600 PRINT
610 PRINT
620 PRINT
630 PRINT
640 PRINT
650 PRINT
660 PRINT
670 PRINT
680 PRINT
690 PRINT
700 PRINT
710 PRINT
720 PRINT
730 PRINT
740 PRINT
750 PRINT
760 PRINT
770 PRINT
780 PRINT
790 PRINT
800 PRINT
810 PRINT
820 PRINT
830 PRINT
840 PRINT
850 PRINT
860 PRINT
870 PRINT
880 PRINT
890 PRINT
900 PRINT
910 PRINT
920 PRINT
930 PRINT
940 PRINT
950 PRINT
960 PRINT
970 PRINT
980 PRINT
990 PRINT

```


2370 OLD

FILE # 4

100 U2=11
110 DATA 4B
120 DATA 0.308,0.35
130 DATA 0.317,0.35
140 DATA 0.31,0.35
150 DATA 0.401,0.46
160 DATA 0.408,0.46
170 DATA 0.408,0.46
180 DATA 0.042,0.04
190 DATA 0.037,0.04
200 DATA 0.04,0.04
210 DATA 0.231,0.29
220 DATA 0.223,0.29
230 DATA 0.238,0.29
240 DATA -0.003,0
250 DATA -0.006,0
260 DATA -0.005,0
270 DATA 0.001,0.58
280 DATA 0.465,0.58
290 DATA 0.479,0.58
300 DATA 0.207,0.23
310 DATA 0.190,0.23
320 DATA 0.193,0.23
330 DATA 0.11,0.12
340 DATA 0.107,0.12
350 DATA 0.109,0.12
360 DATA 0.332,0.35
370 DATA 0.313,0.35
380 DATA 0.305,0.35
390 DATA 0.42,0.46
400 DATA 0.406,0.46
410 DATA 0.4,0.46
420 DATA 0.042,0.04
430 DATA 0.038,0.04
440 DATA 0.039,0.04
450 DATA 0.261,0.29
460 DATA 0.262,0.29
470 DATA 0.254,0.29
480 DATA 0.003,0
490 DATA 1.02-1.0
500 DATA 0.0
510 DATA 0.235,0.58
520 DATA 0.536,0.58
530 DATA 0.523,0.58
540 DATA 0.226,0.23
550 DATA 0.212,0.23
560 DATA 0.216,0.23
570 DATA 0.117,0.12
580 DATA 0.113,0.12
590 DATA 0.116,0.12
600 PRINT "ENTER DATE (mm/dd/yy)".
610 PRINT B4
620 PRINT "ENTER HISTORY LABEL (ID5xx...x)".
630 PRINT C4
640 PRINT F(4),G(31),H(7),H9(31),H8(31),00(31),01(31),02(31),03(31)
650 F=0
660 F(6)=1
670 P(3)=1

```

480 F(29)=1
490 W=0
500 Z=0
510 B7=1
520 N=0
530 X=0
540 PRINT "INSERT NEW HISTORY TAPE IN UNIT *J02
550 PRINT "PRESS 'RETURN' TO CONTINUE."
560 INPUT Z
570 FIND Q02:0
580 MARK Q02:1,3000
590 FIND Q02:1
600 C=C+K*Z
610 PRINT Q02:C
620 PRINT Q02:"002SYSTEM****"
630 PRINT Q02:"003FLOFILES**"
640 PRINT Q02:"004FLOISOC****"
650 PRINT Q02:"005HRL *****"
660 PRINT Q02:"006HRL QL.288F"
670 PRINT Q02:"007HRL QP.288F"
680 PRINT Q02:Z
690 FIND Q02:12
700 MARK Q02:11,1000
710 FIND Q02:12
720 PRINT Q02:"SYSTEM****"
730 FIND Q02:13
740 MARK Q02:11,5000
750 FIND Q02:13
760 PRINT Q02:"FLOFILES**"
770 FIND Q02:14
780 MARK Q02:11,5000
790 FIND Q02:14
800 PRINT Q02:"FLOISOC****"
810 FIND Q02:15
820 MARK Q02:13,5000
830 FIND Q02:15
840 PRINT Q02:"HRL *****"
850 PRINT Q02:R*F
860 PRINT Q02:Z
870 DIM X(400),Y(400)
880 NCH
890 PRINT "ENTER TRUE VS FOUND DATA FOR A:"
900 F=0
910 M1=0
920 F(7)=0
930 READ P(B)
940 DIM X(F(B)),Y(P(B))
950 FOR I=1 TO P(B)
960 F=F+Y(I),X(I)
970 NEXT I
980 M1=0
990 M7=0
1000 M3=0
1010 M4=0
1020 M5=0
1030 M6=0
1040 M0=1
1050 FOR I=1 TO P(B)
1060 M1=M1+X(I)*Y(I)

```

```

1270 M2=M2+Y(I)*W0
1280 M3=M3+X(I)*X(I)*W0
1290 M4=M4+Y(I)*Y(I)*W0
1300 M5=M5+Y(I)*X(I)*W0
1310 W1=W1+W0
1320 NEXT I
1330 C=W1*M3-M1*M1
1340 F(10)=W1/C
1350 F(11)=W1/C
1360 F(12)=M3/C
1370 F(2)=(W1*M5-M1*M2)/(W1*M3-M1*M1)
1380 F(1)=(M2-F(2)*M1)/W1
1390 F(4)=F(1)
1400 F(5)=F(2)
1410 B=0
1420 FOR I=1 TO P(8)
1430 G=H(Y(I)-F(1)-F(2)*X(I))^2
1440 NEXT I
1450 F(23)=1-D/(M4-M2*M2/F(8))
1460 F(3)=2
1470 F(6)=D/(F(8)-2)
1480 F(9)=1
1490 P(29)=1
1500 P(27)=F(6)
1510 FIND Q2:5
1520 PRINT Q2:5:HL *****P*
1530 PRINT Q2:5:P
1540 PRINT Q2:2:
1550 FIND Q2:6

```

```

1560 REM PRINT "ENTER QL HISTORY FOR .288"
1570 REM PRINT "ENTER MEAN(OR CENTRAL STANDARD) FOR .288"

```

```

1580 M1=0.288

```

```

1590 REM PRINT "ENTER S.D.(OR STANDARD) FOR .288"

```

```

1600 M2=0.013

```

```

1610 REM PRINT "ENTER LOWER LIMIT FOR ACCURACY"

```

```

1620 I=0.264
1630 Q0=1

```

```

1640 REM PRINT "ENTER UPPER LIMIT FOR ACCURACY"

```

```

1650 I=0.312
1660 Q1=1

```

```

1670 REM PRINT "ENTER LOWER LIMIT FOR PRECISION"

```

```

1680 I=0
1690 Q2=1

```

```

1700 REM PRINT "ENTER UPPER LIMIT FOR PRECISION"

```

```

1710 I=0.029
1720 Q3=1
1730 Q7=31
1740 N=0

```

```

1750 X0=0
1760 U=0
1770 Z=0
1780 M9=M1
1790 M8=M2
1800 PRINT @U2: "HQL OL.288*"
1810 PRINT @U2:K,D7,X0,X0,M9,01,00,X0,M8,03,02,W,W,K,K,K,K
1820 FIND @U2:7

1850 REM*** PRINT "ENTER OP HISTORY  & .289".
1860 REM** PRINT "ENTER MEAN (OR STANDARD) FOR .288".
1870 M1=0.208

1890 REM*** PRINT "ENTER S.D.(OR STANDARD) FOR .288".
1890 M2=0.017

1890 REM** PRINT "ENTER LOWER LIMIT FOR ACCURACY".
1890 I=0.254
1900 O0=I

1910 REM*** PRINT "ENTER UPPER LIMIT FOR ACCURACY".
1920 I=0.32
1930 O1=I

1940 REM*** PRINT "ENTER LOWER LIMIT FOR PRECISION".
1950 I=0
1960 O2=I

1970 REM*** PRINT "ENTER UPPER LIMIT FOR PRECISION".
1980 I=0.039
1990 O3=I
2000 M9=M1
2010 M8=M2
2020 PRINT @U2: "HQL OP.288*"
2030 PRINT @U2:K,D7,X0,X0,M9,01,00,X0,M8,03,02,W,W,K,K,K,K
2040 PRINT @U2:2:
2050 CLOSE
2060 FIND I
2070 OLO

2080 REM END OF PROGRAM

```

```

100 INIT
110 PRINT @32,26:0

120 REM
130 REM THIS PROGRAM IS SUPPOSED TO UPDATE THE HISTORY FILE BETWEEN
140 REM EACH DAILY RUN. IT IS SUPPOSED TO LEAVE IN THE INFORMATION
150 REM ABOUT PREVIOUS DAYS SO THAT THE OC PLOTS WILL SHOW DAILY
160 REM PROGRESS. IT IS SUPPOSED TO REMOVE THE INDIVIDUAL PLOT FILES
170 REM SO THAT A "FRESH" HISTORY TAPE EACH DAY.
180 REM
190 REM DATE: 05/04/81
200 REM AUTHOR: COMPUTER SCIENCES CORPORATION
210 REM ISAAC WILLY TRAXLER
220 REM NSTL STATION, MS
230 REM
240 REM
250 REM DO SOME PRELIMINARIES

260 UI=33
270 PAGE
280 PRINT " BEGIN PROGRAM TO UPDATE HISTORY TAPE"
290 PRINT " INSERT HISTORY TAPE INTO INTERNAL TAPE DRIVE"
300 PRINT " MAKE SURE WRITE PROTECT IS NOT ON SAFE"
310 PRINT " PRESS HOME PAGE TO START PROGRAM"
320 PRINT "END"
330 PRINT " BEGIN PROCESSING"

340 REM UI - DEVICE NUMBER OF INTERNAL TAPE DRIVE
350 REM A$ - LINE 1 OF FILE 1
360 REM B$ - LINE 2 OF FILE 1
370 REM C$ - LINE 3 OF FILE 1
380 REM D$ - LINE 4 OF FILE 1
390 REM E$ - LINE 5 OF FILE 1
400 REM F$ - LINE 6 OF FILE 1
410 REM G$ - LINE 7 OF FILE 1
420 REM I - USED AS A TEMPORARY INDEX VARIABLE
430 REM
440 REM *** SECTION TO UPDATE FILE 1 ***

450 FIND 1
460 INPUT QUI:A$
470 INPUT QUI:B$
480 INPUT QUI:C$
490 INPUT QUI:D$
500 INPUT QUI:E$
510 INPUT QUI:F$
520 INPUT QUI:G$
530 CLOSE
540 FIND 1
550 PRINT QUI:A$
560 PRINT QUI:B$
570 PRINT QUI:C$
580 PRINT QUI:D$
590 PRINT QUI:E$
600 PRINT QUI:F$
610 PRINT QUI:G$
620 CLOSE

```

```

630 REM END OF FILE 1 SECTION
640 REM PUT TAPE AT BEGINNING OF FILE
650 FIND 0
660 REM *** SECTION FOR FILE 2 ***
670 FIND 2
680 PRINT @U1:":SYSTEM***"
690 CLOSE
700 REM *** END OF FILE 2 SECTION ***
710 REM FIND BEGINNING OF TAPE
720 FIND 0
730 REM *** SECTION FOR FILE 3 ***
740 FIND 3
750 PRINT @U1:":PLOTFILES*"
760 CLOSE
770 REM *** END OF SECTION FOR FILE 3 ***
780 REM FIND BEGINNING OF TAPE
790 FIND 0
800 REM *** SECTION FOR FILE 4 ***
810 FIND 4
820 PRINT @U1:":PLOTSOC***"
830 CLOSE
840 PRINT
850 PRINT
860 PRINT
870 PRINT
880 PRINT
890 PRINT
900 PRINT
910 PRINT
920 PRINT
930 PRINT
940 PRINT
950 PRINT
960 PRINT
970 OLD
980 REM END OF PROGRAM

```

TAPE PROCESSING FINISHED
 YOU MAY REMOVE THE TAPE NOW
 INSERT STATISTICS PROGRAM TAPE INTO INTERNAL TAPE DRIVE
 PRESS 'HOME PAGE' TO CONTINUE
 END

```

100 INIT
110 DATA 33,11,32
120 READ U1,U2,U3
130 DIM U$(8),U$(8)
140 DIM I7(40)
150 DATA 12.706,4.303,3.182,2.776,2.579,2.451,2.366,2.307,2.262,2.228
160 DATA 2.201,2.179,2.16,2.145,2.131,2.12,2.11,2.101,2.093,2.086,2.08
170 DATA 2.074,2.069,2.064,2.06,2.056,2.052,2.049,2.046,2.043,2.04
180 DATA 2.037,2.035,2.033,2.03,2.028,2.027,2.025,2.023,2.022
190 READ I7
200 FINI U2:I0
210 FINI U2:I2
220 INPUT U2:6:A
230 IF A=1 THEN 2050
240 INPUT U2:9:18
250 DIM N1(30),I1(20),T(24),T$(40),X$(30),Y$(30),P(34),L$(60),A$(3)
260 PRINT U2,17:4

270 REM*
280 REM* GET LIST OF FILES TO BE PLOTTED
290 REM*

300 F$="PLOTFILES"
310 GOSUB 3620
320 I=0
330 I=I+1
340 INPUT U2:6:A
350 IF I=1 AND A=1 THEN 2060
360 INPUT U2:N1(I)
370 INPUT U2:6:I1(2)
380 IF I1(2)=2 THEN 330
390 I1(1)=I

400 REM*
410 REM* START PLOT LOOP
420 REM*

430 FOR I9=1 TO I1(1)
440 FINI U2:I0
450 FINI U2:N1(I9)
460 INPUT U2:Z4
470 INPUT U2:I1$
480 INPUT U2:IX$
490 INPUT U2:IY$
500 INPUT U2:IA$
510 INPUT U2:IB$
520 INPUT U2:IP
523 IF I9>1 THEN 530
526 00=F(3)
530 IF F(3)=0 THEN 2040
535 DELETE X,Y
540 DIM X(P(3)),Y(P(3))
550 N=F(3)
560 INPUT U2:IX,Y

570 REM*
580 REM* SET DEFAULT PLOT PARAMETER
590 REM*

```



```

600 REM T(4)-MIN X VALUE OF GRAPH      T(5)-LENGTH OF X AXIS
610 REM T(14)-MIN Y VALUE             T(15)-LENGTH OF Y AXIS

1+1+1+1+
620 VIEWPORT 0,130,0,100
630 WINDOW 0,130,0,100
640 I=0
650 T(1)=F(B)
660 T(2)=2
670 T(3)=4
680 T(4)=10
690 T(5)=70
700 T(8)=1
710 T(9)=1
720 T(14)=25
730 T(15)=70
740 T(18)=1
750 T(19)=1

760 REM LABEL PLOT
770 REM TITLE GRAPH

780 X0=T(5)/2+T(4)-LEN(L$)*7/8
790 Y0=97
800 PAGE
810 MOVE CUS:X0,Y0
820 PRINT CUS:L$

830 REM DUMP X AXIS TITLE

840 X0=T(5)/2+T(4)-LEN(X$)*7/8
850 Y0=T(14)-10
860 MOVE CUS:X0,Y0
870 PRINT CUS:X$

880 REM DUMP Y AXIS LABEL

890 X0=3
900 Y0=T(15)/2+T(14)+LEN(Y$)*10/7
910 MOVE CUS:X0,Y0
920 PRINT CUS:Y$
930 FOR Z=1 TO LEN(Y$)
940 Z$=SEG(Y$,Z,1)
950 PRINT CUS:Z$
960 NEXT Z

970 REM DISPLAY INFO ON RIGHT SIDE OF PLOT

980 X0=T(4)+T(5)+5
990 Y0=T(14)+T(15)-2
1000 MOVE CUS:X0,Y0
1010 PRINT CUS:AGENT: "A$"
1020 Y0=Y0-2
1030 MOVE CUS:X0,Y0
1040 PRINT CUS:DATE: "D$"
1050 Y0=Y0-2
1060 MOVE CUS:X0,Y0
1070 PRINT CUS:STATISTICS:
1080 MOVE CUS:X0,Y0-0.5
1090 PRINT CUS:
1100 Y0=Y0-4

```

```

1110 T9=2
1120 IMAGE FA,2D,3D,FA,S
1130 YO-YO-3
1140 MOVE EU3:XO,YO
1150 PRINT EU3:"EAKLETTIS:"
1160 YO-YO-3
1170 MOVE EU3:XO+T9,YO
1180 PRINT EU3: USING 1120:":P(14):"
1190 IF F(20)=0 THEN 1210
1200 PRINT EU3: USING 1120:":P(20):"
1210 YO-YO-3
1220 IMAGE FA,2D,3D
1230 MOVE EU3:XO,YO
1240 PRINT EU3:"K-SQUARED!"
1250 YO-YO-3
1260 MOVE EU3:XO+T9,YO
1270 PRINT EU3: USING 1220:":P(23):"
1280 IMAGE FA,3E
1290 YO-YO-3
1300 MOVE EU3:XO,YO
1310 PRINT EU3:"MSE:"
1320 YO-YO-3
1330 MOVE EU3:XO+T9,YO
1340 PRINT EU3: USING 1280:":P(27):"
1350 YO-YO-6
1360 MOVE EU3:XO,YO
1370 PRINT EU3:"PARAMETERS"
1380 MOVE EU3:XO,YO-0.5
1390 PRINT EU3:"-----"
1400 YO-YO-4
1410 IMAGE FA,3D,2D,FA,2D,3D,FA,S
1420 MOVE EU3:XO,YO
1430 GO TO P(3) OF 1480,1450,1510
1440 REM case 2 Y=ln(Y)
1450 PRINT EU3:"ln(Y)=atbx"
1460 GO TO 1520
1470 REM case 1 X=ln(X)
1480 PRINT EU3:"Y=atb ln(X)"
1490 GO TO 1520
1500 REM case 3 no transform
1510 PRINT EU3:"Y=atbx"
1520 YO-YO-3
1530 MOVE EU3:XO+T9,YO
1540 PRINT EU3: USING 1280:"a= ",P(4)
1550 YO-YO-3
1560 MOVE EU3:XO+T9,YO
1570 PRINT EU3: USING 1280:"b= ",P(5)
1580 IF P(7)=0 THEN 1720
1590 YO-YO-3
1600 MOVE EU3:XO+T9,YO
1610 MOVE EU3:XO,YO
1620 PRINT EU3:"S(X) = c(X + e)^d"
1630 YO-YO-3
1640 MOVE EU3:XO+T9,YO

```

```

1650 PRINT GU3: USING 1280: "c = ", P(6)
1660 YO=YO-3
1670 MOVE GU3:X0+T9,Y0
1680 PRINT GU3: USING 1280: "d = ", P(7)
1690 YO=YO-3
1700 MOVE GU3:X0+T9,Y0
1710 PRINT GU3: USING 1280: "e = ", P(30)
1720 YO=YO-3
1730 MOVE GU3:X0,Y0
1740 IF P(3) = 2 THEN 1740
1750 PRINT GU3: "Y' = f - Y"
1760 GO TO 1750
1770 PRINT GU3: "Y' = (Y + f) ^ 5"
1780 YO=YO-3
1790 MOVE GU3:X0,Y0
1800 PRINT GU3: "X' = X + h"
1810 YO=YO-3
1820 MOVE GU3:X0+T9,Y0
1830 PRINT GU3: USING 1280: "f = ", P(31)
1840 YO=YO-3
1850 MOVE GU3:X0+T9,Y0
1860 PRINT GU3: USING 1280: "h = ", P(32)
1870 MOVE GU3:(4)+T(5),T(14)
1880 MOVE GU3:(4)+T(5),T(14)+T(15)
1890 MOVE GU3:(4),T(14)+T(15)
1900 GOSUB 4000
1910 IF U3=1 THEN 1900
1920 PRINT "OKJ"
1930 PRINT "DO YOU WANT A PLOTTER PLOT OF THIS PLOT? (Y/N)"
1940 INPUT E4
1950 IF E4 = "Y" THEN 1980
1960 U3=10
1970 GO TO 420
1980 U3=32
1990 GO TO 2000
2000 NEXT 19
2010 REM
2020 FIND 4
2030 OLD
2040 PRINT "NO DATA SETS FOUND ON THIS TAPE"
2050 END
2060 PRINT "THERE ARE NO PLOT FILES CURRENTLY QUEUED TO BE PRINTED"
2070 END
2080 REM
2090 FORK PLOT SUBROUTINES
2100 REM
2110 REM
2120 U9=4
2130 GOSUB 3160
2140 U9=14

```

```

2150 GOSUB 3160
2160 U0=4
2170 Y0=Y0-5
2180 MOVE EU3:X0,Y0
2190 PRINT EU3:"SCALE FACTORS:"
2200 MOVE EU3:X0,Y0-0.5
2210 PRINT EU3:
2220 Y0=Y0-4
2230 MOVE EU3:X0,Y0
2240 PRINT EU3:"X axis: 10**X2
2250 Y0=Y0-3
2260 MOVE EU3:X0,Y0
2270 PRINT EU3:"Y axis: 10**Y2
2280 VIEWPORT T(4),T(4),T(5),T(14),T(14)+T(15)
2290 WINDOW T(6),T(6)+T(7),T(16),T(16)+T(17)
2300 AXIS EU3:T(8),T(18)
2310 J=1
2320 K2=T(10)/T(17)/T(15)
2330 K3=T(14)
2340 U4=STR(T(16)+(J-1)*T(18))
2350 PRINT EU3;21:0 MAX T(4)-(LEN(U4)+1)*1.78*K3-0.89
2360 PRINT EU3:U4
2370 IF J>T(19) THEN 2410
2380 K3=K3+K2
2390 J=J+1
2400 GO TO 2340
2410 K2=T(8)/T(7)/T(5)
2420 K3=T(4)
2430 J=1
2440 U4=STR(T(6)+(J-1)*T(8))
2450 PRINT EU3;21:0 MAX K3-(LEN(U4)+1)*1.78*0.5*T(14)-4
2460 PRINT EU3:U4
2470 IF J>T(9) THEN 2510
2480 K3=K3+K2
2490 J=J+1
2500 GO TO 2440
2510 FOR J=1 TO T(1)
2520 IF T(2)<1 THEN 2540
2530 IF J>1 THEN 2560
2540 MOVE EU3:X(J),Y(J)
2550 GO TO 2570
2560 DRAW EU3:X(J),Y(J)
2570 GOSUB 2600
2580 NEXT J
2590 RETURN

```

```

---1--- 2600 S2=T(14+3)/T(14+1)*0.75
2610 S1=T(4+3)/T(4+1)*0.75
2620 GO TO T(3) OF 29:0,2640,2700,2770,2840
2630 GO TO 2910
2640 RMOVE EU3:0,S2
2650 DRAW EU3:S1,-2+S2
2660 DRAW EU3:-2+S1,0
2670 DRAW EU3:S1,2+S2
2680 RMOVE EU3:0,-S2
2690 RETURN
2700 RMOVE EU3:0,S2
2710 DRAW EU3:0,-2+S2
2720 DRAW EU3:0,S2

```



```

3370 IF 50(3)=10 THEN 3390
3380 50(1)=50(4)+5
3390 IF 50(2)=5 THEN 3310
3400 50(3)=50(4)+2
3410 IF 50(5)=2 THEN 3330
3420 50(3)=50(4)
3430 50(5)=100+2/50(3)
3440 IF 50(5)=0 THEN 3360
3450 50(5)=50(5)+0.00997
3460 50(1)=50(3)*(INT(ABS(50(5)))*SGN(50(5)))+
3470 50(5)-71.074311(U92))/50(3)
3480 IF 50(2)=0 THEN 3400
3490 50(3)=50(5)+0.00997
3500 50(2)=50(2)*(INT(ABS(50(5)))*SGN(50(5)))+
3510 50(5)-50(2)-50(1)
3520 50(4)=INT(INT(ABS(50(5)))*SGN(50(5)))/50(3)
3530 IF 50(5)=1 THEN 3460
3540 50(3)=50(5)
3550 50(4)=1
3560 IF 50(3)=50(5)
3570 50(3)=50(5)
3580 50(3)=50(5)
3590 50(4)=1
3600 100+2/50(1)
3610 100+3/50(2)-50(1)
3620 100+4/50(3)
3630 100+5/50(4)
3640 100+6/50(5)=1.75*(U9+3)/U9+11
3650 RETURN

```

(A443) 5471 0000
 N3.10/0413 433 0097

08/07/1964 10:10 AM 1970
07/27/1964 10:10 AM 1970
07/20/1964 10:10 AM 1970
07/13/1964 10:10 AM 1970
07/06/1964 10:10 AM 1970
06/29/1964 10:10 AM 1970
06/22/1964 10:10 AM 1970
06/15/1964 10:10 AM 1970
06/08/1964 10:10 AM 1970
05/31/1964 10:10 AM 1970
05/24/1964 10:10 AM 1970
05/17/1964 10:10 AM 1970
05/10/1964 10:10 AM 1970
05/03/1964 10:10 AM 1970
04/26/1964 10:10 AM 1970
04/19/1964 10:10 AM 1970
04/12/1964 10:10 AM 1970
04/05/1964 10:10 AM 1970
03/29/1964 10:10 AM 1970
03/22/1964 10:10 AM 1970
03/15/1964 10:10 AM 1970
03/08/1964 10:10 AM 1970
03/01/1964 10:10 AM 1970
02/24/1964 10:10 AM 1970
02/17/1964 10:10 AM 1970
02/10/1964 10:10 AM 1970
02/03/1964 10:10 AM 1970
01/27/1964 10:10 AM 1970
01/20/1964 10:10 AM 1970
01/13/1964 10:10 AM 1970
01/06/1964 10:10 AM 1970
12/30/1963 10:10 AM 1970
12/23/1963 10:10 AM 1970
12/16/1963 10:10 AM 1970
12/09/1963 10:10 AM 1970
12/02/1963 10:10 AM 1970
11/26/1963 10:10 AM 1970
11/19/1963 10:10 AM 1970
11/12/1963 10:10 AM 1970
11/05/1963 10:10 AM 1970
10/29/1963 10:10 AM 1970
10/22/1963 10:10 AM 1970
10/15/1963 10:10 AM 1970
10/08/1963 10:10 AM 1970
10/01/1963 10:10 AM 1970
09/24/1963 10:10 AM 1970
09/17/1963 10:10 AM 1970
09/10/1963 10:10 AM 1970
09/03/1963 10:10 AM 1970
08/27/1963 10:10 AM 1970
08/20/1963 10:10 AM 1970
08/13/1963 10:10 AM 1970
08/06/1963 10:10 AM 1970
07/30/1963 10:10 AM 1970
07/23/1963 10:10 AM 1970
07/16/1963 10:10 AM 1970
07/09/1963 10:10 AM 1970
07/02/1963 10:10 AM 1970
06/26/1963 10:10 AM 1970
06/19/1963 10:10 AM 1970
06/12/1963 10:10 AM 1970
06/05/1963 10:10 AM 1970
05/29/1963 10:10 AM 1970
05/22/1963 10:10 AM 1970
05/15/1963 10:10 AM 1970
05/08/1963 10:10 AM 1970
05/01/1963 10:10 AM 1970
04/25/1963 10:10 AM 1970
04/18/1963 10:10 AM 1970
04/11/1963 10:10 AM 1970
04/04/1963 10:10 AM 1970
03/28/1963 10:10 AM 1970
03/21/1963 10:10 AM 1970
03/14/1963 10:10 AM 1970
03/07/1963 10:10 AM 1970
02/28/1963 10:10 AM 1970
02/21/1963 10:10 AM 1970
02/14/1963 10:10 AM 1970
02/07/1963 10:10 AM 1970
01/31/1963 10:10 AM 1970
01/24/1963 10:10 AM 1970
01/17/1963 10:10 AM 1970
01/10/1963 10:10 AM 1970
01/03/1963 10:10 AM 1970
12/27/1962 10:10 AM 1970
12/20/1962 10:10 AM 1970
12/13/1962 10:10 AM 1970
12/06/1962 10:10 AM 1970
11/29/1962 10:10 AM 1970
11/22/1962 10:10 AM 1970
11/15/1962 10:10 AM 1970
11/08/1962 10:10 AM 1970
11/01/1962 10:10 AM 1970
10/25/1962 10:10 AM 1970
10/18/1962 10:10 AM 1970
10/11/1962 10:10 AM 1970
10/04/1962 10:10 AM 1970
09/27/1962 10:10 AM 1970
09/20/1962 10:10 AM 1970
09/13/1962 10:10 AM 1970
09/06/1962 10:10 AM 1970
08/30/1962 10:10 AM 1970
08/23/1962 10:10 AM 1970
08/16/1962 10:10 AM 1970
08/09/1962 10:10 AM 1970
08/02/1962 10:10 AM 1970
07/26/1962 10:10 AM 1970
07/19/1962 10:10 AM 1970
07/12/1962 10:10 AM 1970
07/05/1962 10:10 AM 1970
06/28/1962 10:10 AM 1970
06/21/1962 10:10 AM 1970
06/14/1962 10:10 AM 1970
06/07/1962 10:10 AM 1970
05/31/1962 10:10 AM 1970
05/24/1962 10:10 AM 1970
05/17/1962 10:10 AM 1970
05/10/1962 10:10 AM 1970
05/03/1962 10:10 AM 1970
04/27/1962 10:10 AM 1970
04/20/1962 10:10 AM 1970
04/13/1962 10:10 AM 1970
04/06/1962 10:10 AM 1970
03/30/1962 10:10 AM 1970
03/23/1962 10:10 AM 1970
03/16/1962 10:10 AM 1970
03/09/1962 10:10 AM 1970
03/02/1962 10:10 AM 1970
02/25/1962 10:10 AM 1970
02/18/1962 10:10 AM 1970
02/11/1962 10:10 AM 1970
02/04/1962 10:10 AM 1970
01/28/1962 10:10 AM 1970
01/21/1962 10:10 AM 1970
01/14/1962 10:10 AM 1970
01/07/1962 10:10 AM 1970
12/31/1961 10:10 AM 1970
12/24/1961 10:10 AM 1970
12/17/1961 10:10 AM 1970
12/10/1961 10:10 AM 1970
12/03/1961 10:10 AM 1970
11/27/1961 10:10 AM 1970
11/20/1961 10:10 AM 1970
11/13/1961 10:10 AM 1970
11/06/1961 10:10 AM 1970
10/30/1961 10:10 AM 1970
10/23/1961 10:10 AM 1970
10/16/1961 10:10 AM 1970
10/09/1961 10:10 AM 1970
10/02/1961 10:10 AM 1970
09/26/1961 10:10 AM 1970
09/19/1961 10:10 AM 1970
09/12/1961 10:10 AM 1970
09/05/1961 10:10 AM 1970
08/29/1961 10:10 AM 1970
08/22/1961 10:10 AM 1970
08/15/1961 10:10 AM 1970
08/08/1961 10:10 AM 1970
08/01/1961 10:10 AM 1970
07/25/1961 10:10 AM 1970
07/18/1961 10:10 AM 1970
07/11/1961 10:10 AM 1970
07/04/1961 10:10 AM 1970
06/28/1961 10:10 AM 1970
06/21/1961 10:10 AM 1970
06/14/1961 10:10 AM 1970
06/07/1961 10:10 AM 1970
05/31/1961 10:10 AM 1970
05/24/1961 10:10 AM 1970
05/17/1961 10:10 AM 1970
05/10/1961 10:

3750 1400T 20016\$
3750 10M J6(10)
3750 J6-16(8,4,10)
3750 F4EN(F)
3750 6IN J6(F)
3750 1F J6-16 THEN 3820
3750 GJ TO 2590

REF ID: A50185
2025 10 10 10:00 AM FILED FOR NOT FOUND

[illegible]

```

3800 JS=CIG(1,10)
3900 F=100000
3910 DIM B(5)
3920 IF JS=1 THEN 3930
3930 RETURN
3940 PRINT "FILE DOES NOT MATCH INTERNAL NAME."
3950 PRINT "INTERNAL NAME =";F;"INTERNAL NAME =";JS
3960 PRINT B(1);
3970 END
3980 PRINT B(2);
3990 END
4000 REMS FLOT DATA,CURVE AND CONFIDENCE LIMITS
4010 GOSUB 2940
4020 GOSUB 3050
4030 REMS ADJUST X RANGE
4040 I(5)=I(5)-0.1*I(7)
4050 I(5)=I(5) MAX 0.01*I(7)
4060 I(7)=I(7)+1.2
4070 REMS ADJUST Y-RANGE
4100 I(15)=I(15)-0.05*I(17)
4110 I(15)=I(15) MAX 0.01*I(17)
4120 I(17)=I(17)+1.1
4130 REMS FLOT OBSERVED DATA
4140 GOSUB 2110
4150 REMS
4160 REMS DRAW G03:UPPER AND LOWER CONFIDENCE LIMITS
4170 REMS
4180 REMS  $I(16)=I(16)+0.01*I(17)$ 
4190 Y0=I(16)
4200 GOSUB 4920
4210 MOVE G03:10-2-X2,I(16)*10-2-Y2
4220 FOR Y5=I(16) TO I(16)+I(17) STEP I(17)/100
4230 Y0=Y5
4240 GOSUB 4920
4250 REMS  $G03:10-2-X2,Y5*10-2-Y2$ 
4260 NEXT Y5
4270 Y0=I(16)
4280 GOSUB 4920
4290 Y0=I(16)
4300 GOSUB 4920
4310 Y0=I(16)
4320 GOSUB 4920
4330 REMS  $G03:10-2-X2,I(16)*10-2-Y2$ 
4340 Y0=I(16)
4350 GOSUB 4920
4360 Y0=I(16)
4370 GOSUB 4920
4380 FOR Y5=I(16)-I(17) TO I(16)+I(17) STEP I(17)/100
4390 IF Y5=I(16)-2 AND Y5=I(16)+2 THEN 4470
4400 Y0=Y5

```

```

4400 GOSUB 4020
4410 GO TO 4450
4420 GOSUB 4950
4430 DRAW PUS:LO*10~-X2,Y5*10~-Y2
4440 IF L.O THEN 4470
4450 DB=00
4460 NEXT Y5
4470 Y0=T(16)
4480 GOSUB 4820
4490 Y0=T(16)
4500 GOSUB 4950
4510 MOVE PUS:U0*10~-X2,T(16)*10~-Y2
4520 FOR Y5=T(16)-1(17)*D7 TO (T(16)+T(17))*D7 STEP T(17)/100*D7
4530 IF F(3)-2 AND Y5=>1P(31) THEN 4620
4540 Y0=Y5
4550 GOSUB 4820
4560 Y0=Y5
4570 GOSUB 4950
4580 DRAW PUS:U0*10~-X2,Y5*10~-Y2
4590 NEXT Y5
4600 I4=10000
4610 FOR I5=1 TO N
4620 IF X(I5)*=0 THEN 4670
4630 I4=I4 MIN X(I5)*10~X2
4640 NEXT I5
4650 IF DB-I4 THEN 4700
4660 DB=I4
4670 VIEWPORT 0,130,0,100
4680 WINDOW 0,130,0,100
4690 REMIT X$="DETECTION LIMIT IS "
4700 REMIT IF DB>10000 THEN 4730
4710 X$=" "
4720 REMIT X$="WARNING - Detection Limit EGRGR00GR"
4730 GO TO 4770
4740 Y$=STR(DB)
4750 Y0=POS(Y$,".",1)
4760 Y$=SEG(Y$,1,Y0+2)
4770 X$=X$Y$
4780 X0=T(5)/2+T(4)-LEN(X$)*7/8
4790 Y0=T(14)-14
4800 MOVE PUS:X0,Y0
4810 PRINT PUS:X$
4820 Y0=Y0-3
4830 Y$=STR(Y0)
4840 X$="Calibration Curve # "Y$
4850 X0=T(5)/2+T(4)-LEN(X$)*7/8
4860 MOVE PUS:X0,Y0
4870 PRINT PUS:X$
4880 RETURN

```

```

---6--- 4920 FEN$
4930 REM$ SOLVE LINEAR REGRESSION IN REVERSE FOR X0
4940 REM$ (Y0/X0)
4950 REM$ TRANSFORM Y0

```



```

4855 IF P(3)=2 AND Y0=P(31) THEN 4932
4856 Y0=Y0+P(31)*P(29)
4870 IF P(3)=2 THEN 4890
4880 Y0=Y0+(2*P(31)-Y0)
4890 X0=(Y0-P(1))/P(2)
4900 IF P(3)=1 THEN 4920
4910 X0=EXP(X0)
4920 X0=X0-P(32)
4930 RETURN
4932 X0=-50
4934 RETURN
4940 REM#

```

```

---4---
4950 REM#
4960 REM#
4970 REM#
4980 REM#
4990 REM#
5000 REM#
5010 REM#
5020 REM#
5030 REM#
5040 REM#
5050 REM#
5060 REM#
5070 REM#
5080 REM#
5090 REM#
5100 REM#
5110 REM#
5120 REM#
5130 REM#
5140 REM#
5150 REM#
5160 REM#
5170 REM#
5180 REM#
5190 REM#
5200 REM#
5210 REM#
5220 REM#
5230 REM#
5240 REM#
5250 REM#
5260 REM#
5270 REM#
5280 REM#
5290 REM#
5300 REM#
5310 REM#
5320 REM#
5330 REM#
5340 REM#
5350 REM#
5360 REM#
5370 REM#
5380 REM#
5390 REM#
5400 REM#
5410 REM#
5420 REM#
5430 REM#
5440 REM#
5450 REM#
5460 REM#
5470 REM#
5480 REM#
5490 REM#
5500 REM#
5510 REM#
5520 REM#
5530 REM#
5540 REM#
5550 REM#
5560 REM#
5570 REM#
5580 REM#
5590 REM#
5600 REM#
5610 REM#
5620 REM#
5630 REM#
5640 REM#
5650 REM#
5660 REM#
5670 REM#
5680 REM#
5690 REM#
5700 REM#
5710 REM#
5720 REM#
5730 REM#
5740 REM#
5750 REM#
5760 REM#
5770 REM#
5780 REM#
5790 REM#
5800 REM#
5810 REM#
5820 REM#
5830 REM#
5840 REM#
5850 REM#
5860 REM#
5870 REM#
5880 REM#
5890 REM#
5900 REM#
5910 REM#
5920 REM#
5930 REM#
5940 REM#
5950 REM#
5960 REM#
5970 REM#
5980 REM#
5990 REM#
6000 REM#
6010 REM#
6020 REM#
6030 REM#
6040 REM#
6050 REM#
6060 REM#
6070 REM#
6080 REM#
6090 REM#
6100 REM#
6110 REM#
6120 REM#
6130 REM#
6140 REM#
6150 REM#
6160 REM#
6170 REM#
6180 REM#
6190 REM#
6200 REM#
6210 REM#
6220 REM#
6230 REM#
6240 REM#
6250 REM#
6260 REM#
6270 REM#
6280 REM#
6290 REM#
6300 REM#
6310 REM#
6320 REM#
6330 REM#
6340 REM#
6350 REM#
6360 REM#
6370 REM#
6380 REM#
6390 REM#
6400 REM#
6410 REM#
6420 REM#
6430 REM#
6440 REM#
6450 REM#
6460 REM#
6470 REM#
6480 REM#
6490 REM#
6500 REM#
6510 REM#
6520 REM#
6530 REM#
6540 REM#
6550 REM#
6560 REM#
6570 REM#
6580 REM#
6590 REM#
6600 REM#
6610 REM#
6620 REM#
6630 REM#
6640 REM#
6650 REM#
6660 REM#
6670 REM#
6680 REM#
6690 REM#
6700 REM#
6710 REM#
6720 REM#
6730 REM#
6740 REM#
6750 REM#
6760 REM#
6770 REM#
6780 REM#
6790 REM#
6800 REM#
6810 REM#
6820 REM#
6830 REM#
6840 REM#
6850 REM#
6860 REM#
6870 REM#
6880 REM#
6890 REM#
6900 REM#
6910 REM#
6920 REM#
6930 REM#
6940 REM#
6950 REM#
6960 REM#
6970 REM#
6980 REM#
6990 REM#
7000 REM#
7010 REM#
7020 REM#
7030 REM#
7040 REM#
7050 REM#
7060 REM#
7070 REM#
7080 REM#
7090 REM#
7100 REM#
7110 REM#
7120 REM#
7130 REM#
7140 REM#
7150 REM#
7160 REM#
7170 REM#
7180 REM#
7190 REM#
7200 REM#
7210 REM#
7220 REM#
7230 REM#
7240 REM#
7250 REM#
7260 REM#
7270 REM#
7280 REM#
7290 REM#
7300 REM#
7310 REM#
7320 REM#
7330 REM#
7340 REM#
7350 REM#
7360 REM#
7370 REM#
7380 REM#
7390 REM#
7400 REM#
7410 REM#
7420 REM#
7430 REM#
7440 REM#
7450 REM#
7460 REM#
7470 REM#
7480 REM#
7490 REM#
7500 REM#
7510 REM#
7520 REM#
7530 REM#
7540 REM#
7550 REM#
7560 REM#
7570 REM#
7580 REM#
7590 REM#
7600 REM#
7610 REM#
7620 REM#
7630 REM#
7640 REM#
7650 REM#
7660 REM#
7670 REM#
7680 REM#
7690 REM#
7700 REM#
7710 REM#
7720 REM#
7730 REM#
7740 REM#
7750 REM#
7760 REM#
7770 REM#
7780 REM#
7790 REM#
7800 REM#
7810 REM#
7820 REM#
7830 REM#
7840 REM#
7850 REM#
7860 REM#
7870 REM#
7880 REM#
7890 REM#
7900 REM#
7910 REM#
7920 REM#
7930 REM#
7940 REM#
7950 REM#
7960 REM#
7970 REM#
7980 REM#
7990 REM#
8000 REM#
8010 REM#
8020 REM#
8030 REM#
8040 REM#
8050 REM#
8060 REM#
8070 REM#
8080 REM#
8090 REM#
8100 REM#
8110 REM#
8120 REM#
8130 REM#
8140 REM#
8150 REM#
8160 REM#
8170 REM#
8180 REM#
8190 REM#
8200 REM#
8210 REM#
8220 REM#
8230 REM#
8240 REM#
8250 REM#
8260 REM#
8270 REM#
8280 REM#
8290 REM#
8300 REM#
8310 REM#
8320 REM#
8330 REM#
8340 REM#
8350 REM#
8360 REM#
8370 REM#
8380 REM#
8390 REM#
8400 REM#
8410 REM#
8420 REM#
8430 REM#
8440 REM#
8450 REM#
8460 REM#
8470 REM#
8480 REM#
8490 REM#
8500 REM#
8510 REM#
8520 REM#
8530 REM#
8540 REM#
8550 REM#
8560 REM#
8570 REM#
8580 REM#
8590 REM#
8600 REM#
8610 REM#
8620 REM#
8630 REM#
8640 REM#
8650 REM#
8660 REM#
8670 REM#
8680 REM#
8690 REM#
8700 REM#
8710 REM#
8720 REM#
8730 REM#
8740 REM#
8750 REM#
8760 REM#
8770 REM#
8780 REM#
8790 REM#
8800 REM#
8810 REM#
8820 REM#
8830 REM#
8840 REM#
8850 REM#
8860 REM#
8870 REM#
8880 REM#
8890 REM#
8900 REM#
8910 REM#
8920 REM#
8930 REM#
8940 REM#
8950 REM#
8960 REM#
8970 REM#
8980 REM#
8990 REM#
9000 REM#
9010 REM#
9020 REM#
9030 REM#
9040 REM#
9050 REM#
9060 REM#
9070 REM#
9080 REM#
9090 REM#
9100 REM#
9110 REM#
9120 REM#
9130 REM#
9140 REM#
9150 REM#
9160 REM#
9170 REM#
9180 REM#
9190 REM#
9200 REM#
9210 REM#
9220 REM#
9230 REM#
9240 REM#
9250 REM#
9260 REM#
9270 REM#
9280 REM#
9290 REM#
9300 REM#
9310 REM#
9320 REM#
9330 REM#
9340 REM#
9350 REM#
9360 REM#
9370 REM#
9380 REM#
9390 REM#
9400 REM#
9410 REM#
9420 REM#
9430 REM#
9440 REM#
9450 REM#
9460 REM#
9470 REM#
9480 REM#
9490 REM#
9500 REM#
9510 REM#
9520 REM#
9530 REM#
9540 REM#
9550 REM#
9560 REM#
9570 REM#
9580 REM#
9590 REM#
9600 REM#
9610 REM#
9620 REM#
9630 REM#
9640 REM#
9650 REM#
9660 REM#
9670 REM#
9680 REM#
9690 REM#
9700 REM#
9710 REM#
9720 REM#
9730 REM#
9740 REM#
9750 REM#
9760 REM#
9770 REM#
9780 REM#
9790 REM#
9800 REM#
9810 REM#
9820 REM#
9830 REM#
9840 REM#
9850 REM#
9860 REM#
9870 REM#
9880 REM#
9890 REM#
9900 REM#
9910 REM#
9920 REM#
9930 REM#
9940 REM#
9950 REM#
9960 REM#
9970 REM#
9980 REM#
9990 REM#

```

```

SOLVE LINEAR REGRESSION IN REVERSE FOR
UPPER AND LOWER CONFIDENCE LIMITS
(Y0,X0,LO,U0)
Y-VALUES L=.025 U=.975
4991 REM# LO is the lower curve if slope is positive
4992 REM# U0 is the upper curve if slope is positive
4993 REM# LO is the lower curve if slope is negative
4994 REM# U0 is the lower curve if slope is negative

```

```

5000 T3=0
5010 U0=0
5020 REM# Power Transform
5030 Y0=(Y0+P(31))*P(29)
5040 REM# Functional Transform

```

```

5050 IF P(3)=2 THEN 5070
5060 Y0=LOG(2*P(31)-Y0)
5070 T3=17*(H-2)*2*P(6)
5080 H1=P(2)*2-P(10)*T3
5090 H1=P(2)*(Y0-P(1))-P(11)*T3
5100 H2=(X0+P(30))*P(7)+P(12)
5110 H2=Y0-P(1)
5120 H3=13*P(11)*2-13*P(10)*H2+P(10)*H2*2-2*P(2)*P(11)*H2
5130 IF H3=0 THEN 5150

```

```

5122 REM# ERROR ROUTINE

```

```

5125 U0=100
5126 LO=100
5127 RETURN
5128 REM#

```

```

5130 IF P(3)=1 THEN 5180
5140 X0=(H1+H2)/H1
5150 REM# Inverse Functional Transform

```

```

5160 IF P(3)=1 THEN 5180
5170 X0=EXP(X0)

```

```

++11111 5100 U0=X0-P(32)
5190 X0=(M1-M3)/A1
5200 REM# Inverse Functional transform
5210 IF P(3)<>1 THEN 5230
5220 X0=EXP(X0)
++11111 5230 L0=X0-P(32)
5240 RETURN
5290 REM scale X & Y for plot
++11111 5300 FOR J=1 TO T(1)
5310 Y(J)=10*Y(J)
5320 NEXT J
5330 Y2=Y2-1
5340 GO TO 2950
++11111 5350 FOR J=1 TO T(1)
5360 X(J)=10*X(J)
5370 NEXT J
5380 X2=X2-1
5390 GO TO 3060

```

H

FILE # 1

```

+++++ 100 INIT
110 U3=12
120 PRINT "U3,26:0"
130 PAGE
140 PRINT "JJ"
150 PRI "  S T A T I S T I C S   P R O G R A M   D I R E C T O R Y "
160 PRI "  FUNCTION "
170 PRINT "JJOPTION"
180 PRINT "-----"
190 PRINT "J 1  CREATE A NEW HISTORY TAPE"
200 PRINT " 2  REFRESH HISTORY TAPE"
210 PRINT " 3  RUN STATISTICS PROGRAMS"
220 PRINT " 4  STOP"
230 PRINT "JJJJ WHICH OPTION? (1,2,3,4)"
240 IF U3=1 THEN 240
250 A=VAL(A$)
260 IF A=1 OR A=4 THEN 100
270 G=INT(A)
280 GO TO G OF 300,400,500,600
300 FIND 0
310 FIND 6
320 OLD
330 OLD
340 FIND 0
350 FIND 7
360 OLD
370 FIND 0
380 FIND 5
390 OLD
400 END
+++++

```

```

4 INIT
5 PRINT #32,26:0
10 U1=33
11 U2=11
12 FIND Q02:0
13 FIND Q02:0
15 INPUT Q02:0,B4
27 DIM Z$(25),O$(20),C$(2),F$(10),E$(72),T$(127),B$(127)
28 DIM M$(6),Y$(30),X$(30),R$(2),A$(6),N$(1),S$(1),W$(7)
29 R4=.
160 DIM X1(32),Y1(32),X2(32),Y2(32),M2(32),G6(32),N0(8),P(34),Q7(32)
110 DIM S(8),M6(8),M7(8),M8(8),M9(8),P0(34)
200 DIM T7(40)
210 DATA 12.706,4.303,3.182,2.776,2.579,2.451,2.366,2.307,2.262,2.228
220 DATA 2.201,2.179,2.162,2.145,2.131,2.12,2.11,2.101,2.093,2.086,2.08
230 DATA 2.074,2.069,2.064,2.056,2.052,2.049,2.046,2.043,2.04
240 DATA 2.037,2.035,2.033,2.03,2.028,2.027,2.025,2.023,2.022
250 READ T7
255 E4=.
260 FOR I=1 TO 71
270 E4=E4+.
280 NEXT I
301 REM*
302 REM*INITIALIZE PLOFILES
303 REM*
304 F$="PLOFILES"
305 B0SUB 60000
306 FIND Q02:09
307 PRINT Q02:F$
308 PRINT Q02:2:
309 PRINT Q02:2:
310 PRINT "GGGGGG"
320 PRINT "INSERT RMA TAPE IN 4051"
325 PRINT "ENTER THE LABEL ON THE RMA DATA TAPE"
330 INPUT Z$
340 FIND Q01:1
350 A=Y1(0)
360 IF A=1 THEN 320
370 INPUT Q01:Y$
380 IF LEN(Z$)<13 THEN 403
390 DIM Z$(13),Y$(13)
400 IF Y4=24 THEN 410
401 PRINT "LABEL ON TAPE IS "Y$
403 PRINT "WRONG RMA TAPE OK WRONG LABEL GGGGGGGGGGGGGGGGGGGGGGGGG"
405 PAGE
406 GO TO 320
410 INPUT Q01:B4
420 M4=SEG(B4,18,2)
430 PRINT "DATA IS BEING PROCESSED"

```

```

440 GOSUB 1000
450 PRINT "GGGGGGG"
470 PRINT "INSERT PROGRAM TAPE IN 4051"
480 PRINT "OKJ"
490 FIND QUIT:3
500 QUIT

```

```

---]---
1000 REM*      PROGRAM FOR H ONLY
1010 REM*
1020 REM*
1030 PRINT "THIS PROGRAM PROCESSES AGENT H ONLY"
1040 M$="H"
1050 REM PRINT "ENTER THE SERIAL NUMBER (N)"
1060 REM INPUT N$
1080 REM PRINT "ENTER THE ANALYST'S INITIALS (AAA)"
1090 REM INPUT V$
1092 N$=""
1094 V$=""
1110 REM* PROCESS CALIBRATION DATA FIRST
1120 FIND QUIT:1
1130 INPUT QUIT:B$
1135 N=0
1140 A=TYPE(O)
1150 IF A=2 THEN 1290
1160 INPUT QUIT:B$
1170 GOSUB 1000
1180 IF A=1 THEN 1280
1190 X4=SEG$(B$,2,7)
1200 C$=SEG$(X4,1,2)
1210 IF C$="NA" THEN 1280
1215 N=N+1
1220 X1(N)=VAL(X4)
1230 Y4=SEG$(B$,4,7)
1240 Y1(N)=VAL(Y4)
1250 GO TO 1140
1141++
1290 REM* END OF DATA FOR CALIBRATION
1141++
1300 PRINT "PROCESSING CALIBRATION DATA FOR H"
1305 P=0
1310 GOSUB 1000
1315 GOSUB 1000
1320 GOSUB 1000
1330 P(13)=0
1340 P(14)=61
1350 M1=0
1360 M2=0
1370 M3=0
1380 M4=0
1390 M5=0
1400 M6=0
1410 M7=0
1420 M8=0
1425 P(8)=N
1430 FOR I=1 TO P(8)
1440 M1=M1+X1(I)

```

```

1650 H2=H2+Y1(I)
1660 H3=H3+X1(I)*X1(I)
1670 H4=H4+Y1(I)*Y1(I)
1680 H5=H5+Y1(I)*X1(I)
1690 NEXT I
1700 C=P(8)*H3-M1^2
1710 F(10)=F(8)/C
1720 F(11)=M1/C
1730 F(12)=H3/C
1740 F(2)=(F(8)*H5-M1*H2)/(P(8)*H3-M1^2)
1750 F(1)=(H2-F(2)*M1)/F(8)
1760 F(4)=F(1)
1770 F(3)=F(2)
1780 B=0
1790 FOR I=1 TO P(8)
1800 B=B+(Y1(I)-P(1)-F(2)*X1(I))^2
1810 NEXT I
1820 F(23)=1-D/(H4-H2^2/P(8))
1830 F(3)=2
1840 F(6)=D/(F(8)-2)
1850 F(9)=1
1860 F(29)=1
1870 F(27)=F(6)
1880 L4="CALIBRATION OF INSTRUMENT RESPONSE *10"
1882 L4=L4$
1884 L5=L5$
1886 DIN Y4(30)
1890 X4="CONCENTRATION"
1900 Y4="INSTRUMENT RESPONSE"
1910 D4=SEG(R4,14,2)
1920 U4=D4$/"
1930 W4=SEG(R4,12,2)
1940 U4=D4$/"
1950 U4=D4$/"
1960 W4=SEG(R4,16,2)
1970 H4=D4$/"
1980 GOSUB 61000
1983 F(1)=0.36022
1986 F(2)=66.48715
1990 F0=F
1992 F4="IRH"
1994 GOSUB 20000
1996 INPUT Q2:R4,P
2000 REM$ PROCESS Q1,X,P DATA
2005 Q4="OL"
2010 C=0.216
2015 GOSUB 7000
2020 GOSUB 3500
2025 GOSUB 3625
2200 REM$ PROCESS ACTUAL DATA
2215 N=0
2240 REM INPUT ACTUAL DATA
2250 FIND QUT:I
2260 INPUT QUT:R$

```

```

1113+++ 2270 A=TYPE(0)
2280 IF A<>2 THEN 2900
2290 INPUT QUIT1
2300 GOSUB 5003
2310 IF A<>1 THEN 2270
2315 Y=SEG(Q1,118,2)
2316 IF Y<>".PL." THEN 2270
2320 REM PROCESS ACTUAL DATA
2330 N=N+1
2340 GOSUB 10000
2350 GO TO 2270
1114+++ 2900 PRINT "OKJ"
2905 PRINT "GUNGSGGK10 GFGKGSGGGRGAGNO 010AGP00 010N0 040005610"
2910 PRINT "PRESS 'HOME PAGE' TO CONTINUE"
2920 PRINT "OKJ"
2930 FIND 3
2940 OLD

```

---1--- 3000 REM# DETERMINE GROUPS

```

3005 K=0
3010 N2=0
1112+++ 3020 FOR J1=1 TO N
3030 IF N2(J1)=0 THEN 3045
3040 NEXT J1
1113+++ 3045 IF J1=N THEN 3275
3046 IF J1=N THEN 3200
3050 N=N+1
3060 N2(J1)=K
3065 IF J1=N THEN 3200
3070 J2=1
3080 J3=Y1(J1)
3090 J4=Y1(J1)+2
3100 FOR J=J1+1 TO N
3110 IF N2(J)<>0 THEN 3180
3120 IF X1(J1)=X1(J) THEN 3140
3130 GO TO 3180
3140 N2(J)=N
3150 J2=J+1
3160 J3=J3+Y1(J)
3170 J4=J4+Y1(J)*Y1(J)
1114+++ 3180 NEXT J
3190 J5=J4-J3*J3/J2
3200 IF J2=1 OR J5=0 THEN 3220
3210 GO TO 3020
1115+++ 3220 FOR J=1 TO N
3230 IF N2(J)<>K THEN 3250
3240 N2(J)=1
1116+++ 3250 NEXT J
3260 N=N-1
3270 GO TO 3020
1117+++ 3275 N2(N)=1
1118+++ 3280 N7=0
3290 FOR J=1 TO N
3300 IF N2(J)=1 THEN 3320
3310 N7=N7+1

```

```

++11111 3320 NEXT J
3330 REM* DETERMINE NUMBER IN EACH GROUP & SAVE X1Y
3350 NO=0
3355 DIM G6(N),G7(N)
3360 FOR I3=1 TO N
3370 G6(I3)=Y1(I3)
3380 G7(I3)=X1(I3)
3385 IF N2(I3)=1 THEN 3400
3390 NO(N2(I3))=NO(N2(I3))+1
++11111 3400 NEXT I3
3410 RETURN

```

```

---1--- 3500 REM* RC
3501 ON SIZE THEN 3503
3502 GO TO 3510
---1--- 3503 FUZZ 15,1.0E-24
3504 OFF SIZE
3505 RETURN

```

```

++11111 3510 REM*(X1(N2(I)),P(25),P(26))
3530 S1=0
3540 S2=0
3541 J=0
3542 IF N>0 THEN 3550
3544 P(25)=0
3546 P(26)=0
3548 P(28)=0
3549 GO TO 3620
++11111 3550 FOR I=1 TO N
3565 J=J+1
3570 S1=S1+X1(I)
3580 S2=S2+X1(I)^2
3590 NEXT I
3600 P(25)=S1/J
3605 P(28)=J
3610 P(26)=SQR(S2/J-P(25)^2)
++11111 3620 RETURN

```

```

---1--- 3625 REM* UPDATE PLOTSQC
3630 F$="PLOTSQC"
3640 GOSUB 40000
++11111 3650 INPUT G2,6:A
3660 IF A<2 THEN 3690
3670 INPUT G2:B$
3680 GO TO 3650
++11111 3690 IF N1$="RL.216"
3698 PRINT G2:B$
3700 PRINT G2:D$
3710 PRINT G2:O$

```


3720 PRINT B(2),P(25),P(26),P(28)
3730 RETURN

4000 REM* DETERMINE SCALE SHIFTS FOR X AND Y

4010 P(31)=1
4020 P(32)=0.1
4030 FOR I3=1 TO N
4040 P(31)=P(31) MIN Y1(I3)
4050 P(32)=P(32) MIN X1(I3)
4060 NEXT I3
4062 P(31)=1-P(31)
4064 P(32)=0.1-P(32)
4070 IF Z1<4 THEN 4110
4080 P(31)=P(32)

4100 REM* INITIALIZE P

4110 P(8)=N
4120 P(7)=0.
4130 P(9)=K
4140 P(19)=0
4150 P(20)=0
4160 P(21)=0
4170 P(22)=0
4180 P(23)=0
4190 P(24)=0

4200 REM* INITIAL TRANSFORMATION

4210 FOR I3=1 TO N
4220 Y1(I3)=(G6(I3)+P(31))*P(29)
4230 X1(I3)=G7(I3)+P(32)
4240 NEXT I3
4250 RETURN

---3--- 5000 REM* CHECK FOR ACCEPTABLE RECORD

5010 A=1
5020 X\$=SEG\$(1,6,1)
5030 IF NOT(X\$="1" OR X\$="3") THEN 5110
5040 X\$=SEG\$(4,18,2)
5050 IF X\$<>"H" THEN 5110

5060 REM X\$=SEG\$(1,20,1)
5070 REM IF X\$<>"H" THEN 5110
5080 REM X\$=SEG\$(4,87,3)
5090 REM IF X\$<>"H" THEN 5110

5100 RETURN
5110 A=0
5120 RETURN

---1--- 6000 REM* GROUP MOMENTS

6005 M7=0

```

6010 H6=0
6020 H7=0
6030 H8=0
6040 H9=0
6050 FOR I=1 TO N
6055 IF N2(I)<1 THEN G100
6057 N7=N7+1
6060 H6(N2(I))=H6(N2(I))+X1(I)
6070 M7(N2(I))=M7(N2(I))+Y1(I)
6080 H8(N2(I))=H8(N2(I))+X1(I)*X1(I)
6090 H9(N2(I))=H9(N2(I))+Y1(I)*Y1(I)
6100 NEXT I
6110 RETURN

```

```

---1--- 7000 REM$ GET DATA FOR OL & OP

```

```

7010 N=0
7020 FIND QUL:1
7030 INPUT QUL:R$
7040 A=IYP(O)
7050 IF A<2 THEN 7230
7060 INPUT QUL:R$
7070 GOSUB 5000
7080 IF A<1 THEN 7220
7090 R$=SEG(R$,118,2)
7100 IF N<0$ THEN 7220

```

```

7102 REM CHECK FOR CONTROL CONCENTRATION

```

```

7104 Y1=SEG(R$,97,7)
7106 IF VAL(Y1)<C THEN 220
7110 Y1=SEG(R$,48,7)
7120 Y=VAL(Y1)
7130 X=(Y-F(1))/F(2)
7140 M1=SEG(R$,62,7)
7150 X=X*VAL(M1)
7160 Y1=SEG(R$,97,7)
7170 Y=VAL(Y1)
7180 N=N+1
7190 X1(N)=X
7200 Y1(N)=Y
7220 GO TO 7040
7230 RETURN

```

```

---1--- 10000 REM$ GET ACTUAL DATA FROM B$
10010 REM$ PEAK HIEGHT

```

```

10020 Y1=SEG(B$,40,7)
10030 Y0=VAL(Y1)
10040 Y0=(Y0-F(1))/F(2)
10045 X0=(Y0-F(1))/F(2)
10050 GOSUB 15000
10060 X1=SEG(B$,62,7)
10070 X0=X0*VAL(X1)
10080 X1=SEG(B$,69,7)
10090 X0=X0*VAL(X1)

```

10140 RENS GET TIME

10150 X1=SEG(R1,123,2)

10160 Y1=SEG(R1,123,2)

10170 X=VAL(X1)

10180 Y=VAL(Y1)

10190 Z=X-Y

10200 X1=SEG(R1,124,2)

10210 Y1=SEG(R1,120,2)

10220 X=VAL(X1)

10230 Y=VAL(Y1)

10240 Z=(X-Y)*601Z

10250 RENS GET AIRFLOW

10260 Y1=SEG(R1,90,7)

10270 Y=VAL(Y1)

10280 XQ=XO*(OZ/(Y*Z))+4.0E-4

10290 LO=LO*(OZ/(Y*Z))+4.0E-4

10300 UO=UO*(OZ/(Y*Z))+4.0E-4

10400 RENS PRINT OUT ACTUAL DATA

10405 T1=B1

10410 IF INT((N-1)/20)*20<N-1 THEN 11000

10420 B1=B1

10430 B1=REF("ACTUAL DATA FOR H",24,17)

10440 B1=REF("DATE",52,5)

10450 B1=REF("OZ",58,8)

10460 PRINT "T1"

10470 PRINT "J1"

10480 B1=B1

10490 B1=REF("AGENT CONCENTRATION",29,19)

10500 PRINT "J1"

10510 B1=B1

10520 B1=REF("TIME",59,4)

10530 PRINT B1

10540 B1=B1

10550 B1=REF("SAMPLE LOCATION

TRUE LOWER 952",5,36)

10560 B1=REF("DIFFER 952

10570 PRINT B1

+++++ 11000 SEM PRINT DATA

11010 B1=B1

11020 X1=SEG(R1,21,6)

11030 Y1=SEG(R1,5,6)

11040 X1=SEG(R1,116,2)

11050 Y1=REF("OZ",58,8)

11060 B1=REF("OZ",58,8)

11070 B1=REF("OZ",58,8)

11080 B1=REF("OZ",58,8)

11090 IF (X1-Y1)<3 THEN 11082

11100 B1=B1

11110 B1=B1

11120 X=OZ

+++++

11174 X4=SEG(X4,1,X)
11175 B4=REF(24,24,X)
11176 IF X4=0.0015 THEN 11172
11177 X4=SIGN(X4)

11178 REM GOSUB 12000

11179 L4=X4

11180 GOSUB 61600

11181 X=0

11182 X4=SEG(X4,1,X)

11183 GOSUB 14000

11184 B4=REF(X4,34,X)

11185 X4=SIGN(X4)

11186 REM GOSUB 12000

11187 L4=X4

11188 GOSUB 61600

11189 X=0

11190 X4=SEG(X4,1,X)

11191 GOSUB 14000

11192 B4=REF(X4,46,X)

11193 REM

11194 REM

11195 Z4=SEG(X4,120,4)

11196 B4=REF(24,24,X)

11197 Z4=SEG(X4,124,4)

11198 B4=REF(24,24,X)

11199 IF X4=0 THEN 12200

11200 Y=LEN(X4)

11201 IF Y=0 THEN 12300

11202 IF Y=1 THEN 12300

11203 IF Y=2 THEN 12300

11204 IF Y=3 THEN 12300

11205 IF Y=4 THEN 12300

11206 IF Y=5 THEN 12300

11207 IF Y=6 THEN 12300

11208 IF Y=7 THEN 12300

11209 IF Y=8 THEN 12300

11210 IF Y=9 THEN 12300

11211 IF Y=10 THEN 12300

11212 IF Y=11 THEN 12300

11213 IF Y=12 THEN 12300

11214 IF Y=13 THEN 12300

11215 IF Y=14 THEN 12300

11216 IF Y=15 THEN 12300

11217 IF Y=16 THEN 12300

11218 IF Y=17 THEN 12300

11219 IF Y=18 THEN 12300

11220 IF Y=19 THEN 12300

11221 IF Y=20 THEN 12300

11222 IF Y=21 THEN 12300

11223 IF Y=22 THEN 12300

11224 IF Y=23 THEN 12300

11225 IF Y=24 THEN 12300

11226 IF Y=25 THEN 12300

11227 IF Y=26 THEN 12300

11228 IF Y=27 THEN 12300

11229 IF Y=28 THEN 12300

11230 IF Y=29 THEN 12300

11231 IF Y=30 THEN 12300

11232 IF Y=31 THEN 12300

11233 IF Y=32 THEN 12300

11234 IF Y=33 THEN 12300

11235 IF Y=34 THEN 12300

11236 IF Y=35 THEN 12300

11237 IF Y=36 THEN 12300

11238 IF Y=37 THEN 12300

11239 IF Y=38 THEN 12300

11240 IF Y=39 THEN 12300

11241 IF Y=40 THEN 12300

11242 IF Y=41 THEN 12300

11243 IF Y=42 THEN 12300

11244 IF Y=43 THEN 12300

11245 IF Y=44 THEN 12300

11246 IF Y=45 THEN 12300

11247 IF Y=46 THEN 12300

11248 IF Y=47 THEN 12300

11249 IF Y=48 THEN 12300

11250 IF Y=49 THEN 12300

11251 IF Y=50 THEN 12300

11252 IF Y=51 THEN 12300

11253 IF Y=52 THEN 12300

11254 IF Y=53 THEN 12300

11255 IF Y=54 THEN 12300

11256 IF Y=55 THEN 12300

11257 IF Y=56 THEN 12300

11258 IF Y=57 THEN 12300

11259 IF Y=58 THEN 12300

11260 IF Y=59 THEN 12300

11261 IF Y=60 THEN 12300

11262 IF Y=61 THEN 12300

11263 IF Y=62 THEN 12300

11264 IF Y=63 THEN 12300

11265 IF Y=64 THEN 12300

11266 IF Y=65 THEN 12300

11267 IF Y=66 THEN 12300

11268 IF Y=67 THEN 12300

11269 IF Y=68 THEN 12300

11270 IF Y=69 THEN 12300

11271 IF Y=70 THEN 12300

11272 IF Y=71 THEN 12300

11273 IF Y=72 THEN 12300

11274 IF Y=73 THEN 12300

11275 IF Y=74 THEN 12300

11276 IF Y=75 THEN 12300

11277 IF Y=76 THEN 12300

11278 IF Y=77 THEN 12300

11279 IF Y=78 THEN 12300

11280 IF Y=79 THEN 12300

11281 IF Y=80 THEN 12300

11282 IF Y=81 THEN 12300

11283 IF Y=82 THEN 12300

11284 IF Y=83 THEN 12300

11285 IF Y=84 THEN 12300

11286 IF Y=85 THEN 12300

11287 IF Y=86 THEN 12300

11288 IF Y=87 THEN 12300

11289 IF Y=88 THEN 12300

11290 IF Y=89 THEN 12300

11291 IF Y=90 THEN 12300

11292 IF Y=91 THEN 12300

11293 IF Y=92 THEN 12300

11294 IF Y=93 THEN 12300

11295 IF Y=94 THEN 12300

11296 IF Y=95 THEN 12300

11297 IF Y=96 THEN 12300

11298 IF Y=97 THEN 12300

11299 IF Y=98 THEN 12300

11300 IF Y=99 THEN 12300

11301 IF Y=100 THEN 12300

11302 IF Y=101 THEN 12300

11303 IF Y=102 THEN 12300

11304 IF Y=103 THEN 12300

11305 IF Y=104 THEN 12300

11306 IF Y=105 THEN 12300

11307 IF Y=106 THEN 12300

11308 IF Y=107 THEN 12300

11309 IF Y=108 THEN 12300

11310 IF Y=109 THEN 12300

11311 IF Y=110 THEN 12300

11312 IF Y=111 THEN 12300

11313 IF Y=112 THEN 12300

11314 IF Y=113 THEN 12300

11315 IF Y=114 THEN 12300

11316 IF Y=115 THEN 12300

11317 IF Y=116 THEN 12300

11318 IF Y=117 THEN 12300

11319 IF Y=118 THEN 12300

11320 IF Y=119 THEN 12300

11321 IF Y=120 THEN 12300

11322 IF Y=121 THEN 12300

11323 IF Y=122 THEN 12300

11324 IF Y=123 THEN 12300

11325 IF Y=124 THEN 12300

11326 IF Y=125 THEN 12300

11327 IF Y=126 THEN 12300

11328 IF Y=127 THEN 12300

11329 IF Y=128 THEN 12300

11330 IF Y=129 THEN 12300

11331 IF Y=130 THEN 12300

11332 IF Y=131 THEN 12300

11333 IF Y=132 THEN 12300

11334 IF Y=133 THEN 12300

11335 IF Y=134 THEN 12300

11336 IF Y=135 THEN 12300

11337 IF Y=136 THEN 12300

11338 IF Y=137 THEN 12300

11339 IF Y=138 THEN 12300

11340 IF Y=139 THEN 12300

11341 IF Y=140 THEN 12300

11342 IF Y=141 THEN 12300

11343 IF Y=142 THEN 12300

11344 IF Y=143 THEN 12300

11345 IF Y=144 THEN 12300

11346 IF Y=145 THEN 12300

11347 IF Y=146 THEN 12300

11348 IF Y=147 THEN 12300

11349 IF Y=148 THEN 12300

11350 IF Y=149 THEN 12300

11351 IF Y=150 THEN 12300

11352 IF Y=151 THEN 12300

11353 IF Y=152 THEN 12300

11354 IF Y=153 THEN 12300

11355 IF Y=154 THEN 12300

11356 IF Y=155 THEN 12300

11357 IF Y=156 THEN 12300

11358 IF Y=157 THEN 12300

11359 IF Y=158 THEN 12300

11360 IF Y=159 THEN 12300

11361 IF Y=160 THEN 12300

11362 IF Y=161 THEN 12300

11363 IF Y=162 THEN 12300

11364 IF Y=163 THEN 12300

11365 IF Y=164 THEN 12300

11366 IF Y=165 THEN 12300

11367 IF Y=166 THEN 12300

11368 IF Y=167 THEN 12300

11369 IF Y=168 THEN 12300

11370 IF Y=169 THEN 12300

11371 IF Y=170 THEN 12300

11372 IF Y=171 THEN 12300

11373 IF Y=172 THEN 12300

11374 IF Y=173 THEN 12300

11375 IF Y=174 THEN 12300

11376 IF Y=175 THEN 12300

11377 IF Y=176 THEN 12300

11378 IF Y=177 THEN 12300

11379 IF Y=178 THEN 12300

11380 IF Y=179 THEN 12300

11381 IF Y=180 THEN 12300

11382 IF Y=181 THEN 12300

11383 IF Y=182 THEN 12300

11384 IF Y=183 THEN 12300

11385 IF Y=184 THEN 12300

11386 IF Y=185 THEN 12300

11387 IF Y=186 THEN 12300

11388 IF Y=187 THEN 12300

11389 IF Y=188 THEN 12300

11390 IF Y=189 THEN 12300

11391 IF Y=190 THEN 12300

11392 IF Y=191 THEN 12300

11393 IF Y=192 THEN 12300

11394 IF Y=193 THEN 12300

11395 IF Y=194 THEN 12300

11396 IF Y=195 THEN 12300

11397 IF Y=196 THEN 12300

11398 IF Y=197 THEN 12300

11399 IF Y=198 THEN 12300

11400 IF Y=199 THEN 12300

11401 IF Y=200 THEN 12300

11402 IF Y=201 THEN 12300

11403 IF Y=202 THEN 12300

11404 IF Y=203 THEN 12300

11405 IF Y=204 THEN 12300

11406 IF Y=205 THEN 12300

11407 IF Y=206 THEN 12300

11408 IF Y=207 THEN 12300

11409 IF Y=208 THEN 12300

11410 IF Y=209 THEN 12300

11411 IF Y=210 THEN 12300

11412 IF Y=211 THEN 12300

11413 IF Y=212 THEN 12300

11414 IF Y=213 THEN 12300

11415 IF Y=214 THEN 12300

11416 IF Y=215 THEN 12300

11417 IF Y=216 THEN 12300

11418 IF Y=217 THEN 12300

1141

```

15000 REM*
15010 REM* SOLVE LINEAR REGRESSION IN REVERSE FOR
15020 REM* UPPER AND LOWER CONFIDENCE LIMITS
15030 REM* (Y0,X0P0,U0)
15040 REM* T-VALUES L=.025 U=.975
15050 X2=X0
15060 U0=0
15070 REM* TRANSFORM Y0
15071 IF P(8)>40 THEN 15075
15072 Y9=Y7*(P(8)-2)
15073 G0 TO 15080
15075 Y9=Y9*2
15080 G0=Y0*(P(31))-P(29)
15090 Y7=Y0
15100 Y9=Y9*2*(P(6))
15110 A1=A(1)-P(10)*Y3
15120 B1=B(2)*(Y7-P(11))*Y3
15130 A2=-(0.4342+1.1734*X2)*2*(P(7))
15140 B3=0
15150 A2=A2*P(12)
15160 B3=B3*-P(11)
15170 A3=13*(P(11))-2-13*(P(10))*A2*(P(2))-2*(P(2))*P(11)*B2
15180 B3=19*(P(10))*A3*(P(6))
15190 X2=(P(11))/A1
15210 U0=X2*-P(12)
15220 X2=(B1-B3)/A1
15230 U0=X2*-P(12)
15250 RETURN

```

```

20000 REM*
20010 REM* Perform Bartlett's test for homogeneity
20020 REM* (P(5),P(7),Y2(J),X2(N0(J)),K(CB,M1)
20030 REM* Find variance for each level
20040 REM*
20042 ON SIZE THEN 21000
20045 CB=-1
20046 IF K=0 THEN 21000
20048 J=1
20050 S=0
20060 GOSUB 20050
20070 S=0
20080 FOR J=1 TO N
20090 IF N2(J)=1 THEN 20100
20100 S=S+(Y2(J)-5*(N2(J)+Y1(J)-M7(N2(J))/N0(N2(J))))^2
20110 J=J+1
20120 IF J=10 THEN
20130 S=(S)/(5*(J)-5*(J)/100*(J)-1)
20140 IF S=0 THEN 21000
20150 M7=J
20160 REM*

```

20150 REM#find pooled variance

20160 REM#

20170 A=0

20180 FOR J=1 TO K

20190 S3=1

20200 A=(NO(J)-1)*S(J)/S3+A

20210 NEXT J

20220 S4=A/(N7-K)

20230 REM#

20240 REM#find correction factor

20250 REM#

20260 A=0

20270 FOR J=1 TO K

20280 A=1/(NO(J)-1)+A

20290 NEXT J

20300 C=1/A/(3*(K-1))

20310 REM#

20320 REM#find chi-square

20330 REM#

20340 A=0

20350 FOR J=1 TO K

20360 S3=1

20370 A=(NO(J)-1)*LOG(S(J)/S3)+A

20380 NEXT J

20390 CB=((N7-K)*LOG(S4)-A)/C

20395 IF CB=0 THEN 21000

20400 M1=N-1

20405 OFF SIZE

20410 RETURN

-----4----- 21000 PRINT "BARTLETT'S TEST NOT DEFINED FOR DATA SET "IH#

21010 CB=-1

21011 M1=N-1

21015 OFF SIZE

21020 RETURN

-----1----- 25000 REM#

25001 IF CB=0 THEN 25003

25002 GO TO 25030

25003 A1=-1

25004 RETURN

25010 REM#CHI-SQUARE DISTRIBUTION

25020 REM# (CB,M1,A1,CB)

25030 A1=0

25040 IF CB 100 THEN 25110

25050 A=M1/2

25060 U=CB/2

25070 GOSUB 25120

25080 IF A1=0 THEN 25110

25090 A2=10*(5*INT(-LB/(A1)))
25100 A1=INT(A2*(A1+0.5)/A2
25110 RETURN

11111111

---1--- 25120 IF A>100 THEN 25630

25130 A1=1

25140 A2=1

25150 B2=1

25160 I=1

25170 IF UZA THEN 25320

25180 H1=U

25190 B2=B1-A

25200 A1=U*(A2+1)*A1

25210 B1=U*(B2+1)*B1

25220 I=I+1

25230 A2=A1*(1-A)*A2

25240 B2=B1*(1-A)*B2

25250 IF ABS(A1/B1-A2/B2)>1.0E-7 THEN 25200

25260 C9=A2/B2

25270 F2=A1/B1

25280 X=A

25290 GOSUB 25470

25300 A1=C9*EXP(F2-A1)

25310 RETURN

25320 A1=1/A-U

25330 B1=1/A

25340 C9=2/F1+A

25350 B2=C9*(A1+U)*A2

25360 B2=C9*(B1+U)*B2

25370 A1=C9*(A2+U)-(A1)*U*A1

25380 B1=C9*(B2+U)-(B1)*U*B1

25390 I=I+1

25400 IF ABS(A2/B2-A1/B1)>1.0E-8 THEN 25340

25410 C9=B1/A1

25420 X=A+1

25430 GOSUB 25470

25440 A1=A1/B1-U-A1

25450 A1=1-C9*EXP(A1)

25460 RETURN

---2--- 25470 IF A<10 THEN 25500

25480 GOSUB 25600

25490 RETURN

25500 A2=10-INT(X)

25510 B1=1

25520 FOR I=0 TO A2-1

25530 B1=B1*(X+1)

25540 B1=1

25550 X=X+1

25560 GOSUB 25600

25570 X=X+1

25580 A1=A1/B1

25590 RETURN

25600 A1=X*(X+0.5)*LOG(X)-X*(X+0.5)*LOG(X+1)
25610 A1=A1/(12*X)-1/(360*X^3)+1/(1260*X^5)
25620 RETURN

```

1111111 25630 A1=A-0.5
25640 W1=U1/1-A-0.02/A
25650 X=A1/U
25660 C9=0
25670 IF X=1 OR X=0 THEN 25690
25680 C9=(1-X)*X*LOG(X))/((1-X)*(1-X))
25690 C9=D1*SQR((1+C9)/U)
25700 IF ABS(C9)>20 THEN 25780
25710 1=1/(1+0.2316419*ABS(C9))
25720 A1=1*(0.31930153+1*(1-0.356563782+1.781477937*1))
25730 A1=A1+1*(1-1.821255978+1.330274429*1)
25740 A1=SQR(1/(2+P1))*EXP(-C9*U/23)*A1
25750 IF C9=0 THEN 25770
25760 A1=1-A1
25770 RETURN
25780 A1=0
25790 GO TO 25750

```

```

59000 REM*
59010 RHM* GET HISTORY NAME
59020 REM*

```

```

59030 GOSUB 60000
59050 UN SKD THEN 59120
59060 INPUT Q2,A: A=
59070 IF A=1 THEN 59120
59080 INPUT Q2,R,P
59090 IF A=1 THEN 59140
59100 GO TO 59060

```

```

59110 REM*ON SKD

```

```

---2--- 59120 INPUT Q2,30:A
59130 A=1
1111111 59140 RETURN

```

```

59500 REM*
59510 REM* UPDATE HISTORY FILE
59520 REM* (N*X2,P(7),P(10),P(11),P(12))

```

```

59530 W1=0
59540 W2=0
59550 W3=0
59560 C=0
59570 FOR J=1 TO H
59580 W=1/(P(6)*X2(J)+P(30))*P(7)
59590 W1=W1+W

```

```

59600 W2=W2+W*X2(J)
59610 W3=W3+W*X2(J)^2
59620 NEXT J
59630 C=C+W1*W2-0.372
59640 P(10)=W1/C
59650 P(11)=W2/C
59660 P(12)=W3/C
59670 F1=100*W3
59672 IF K4=1 THEN 59680
59673 F1=REP(-R,5,1)
59674 F3=F1*K4

```



```

+++++ 59680 GOSUB 60000
59690 PRINT Q2;D,F
59695 PRINT Q2;2:
59700 RETURN

```

```

---7--- 60000 REM# FIND/OPEN
60010 REM# (F#,N9)
60015 FIND Q2;0
60020 FIND Q2;1
60030 INPUT Q2;H#
60040 J#-SEG(H#,1,3)
60050 IF J#<10$ THEN 60330
60060 INPUT Q2;6;A
60070 IF A=1 THEN 60160
60080 INPUT Q2;H#
60090 DIM J$(10)
60100 J#-SEG(H#,4,10)
60110 F=LEN(F#)
60120 DIM J$(F)
60130 IF J#<F THEN 60190
60140 GO TO 60060
60150 REM#

```

```

+++++ 60160 PRINT "ERROR *** FILE 'F#;' NOT FOUND."
60170 PRINT Q2;2:
60180 END

```

```

+++++ 60190 J#-SEG(H#,1,3)
60200 N9=VAL(J#)
60205 FIND Q2;0
60210 INPUT Q2;H#
60220 INPUT Q2;H#
60230 DIM J$(10)
60240 J#-SEG(H#,1,10)
60250 F=LEN(F#)
60260 DIM J$(F)
60270 IF J#<F THEN 60290
60280 RETURN

```

```

+++++ 60290 PRINT "FILE DOES NOT MATCH INTERNAL NAME"
60300 PRINT "INDEX NAME = 'F#;' INTERNAL NAME = 'J#'"
60310 PRINT Q2;2:
60320 END

```

```

+++++ 60330 PRINT "DATA TAPE IN EXTERNAL TAPE UNIT IS NOT A IDS DATA TAPE"
60340 PRINT Q2;2:
60350 END

```

```

---1--- 61000 REM#
61010 F#:#
61020 REM# (M1,L$,X$,Y$,D$,F$,F$)
61030 REM#

```

```

61040 DIM F$(3)
61050 F#="000"
61055 FIND Q2;0
61060 FIND Q2;1

```

```

++12++ 61070 INPUT @2,61A
        61080 IF A< 2 THEN 61150
        61090 INPUT @2:1A
        61100 A$=SUBSTR(4,6)
        61110 @2=F*1M$
        61120 IF A$=0$ THEN 61070
        61130 F$=SUBSTR(10,2)
        61140 GO TO 61070
++11++ 61150 T3=VAL(F$)
        61160 T3=T3+1
        61170 F$=STR(T3)
        61180 F4=F*1M$
        61190 F5=F*1M$
        61200 REM*
        61210 REM*
        61220 REM*
                UPDATE INDEX
        61230 A$=SUBSTR(1,3)
        61240 T3=VAL(A$)
        61250 T3=T3+1
        61260 I$=
        61270 PRINT @2: USING 61280:T3,F$,T*,I$
        61280 IMAGE 30,10A,1A,20A
        61292 PRINT @2:2:
        61295 FIND @2:0
        61299 FIND @2:13
        61300 MARK @2:11,2500
        61305 FIND @2:0
        61310 FIND @2:13
        61320 PRINT @2: USING 61330:F$,D$,U$
        61330 IMAGE 10A,8A,8A
        61340 PRINT @2:1A
        61350 PRINT @2:1A
        61360 PRINT @2:1A
        61370 PRINT @2:1A
        61380 PRINT @2:1A
        61390 PRINT @2:1A
        61400 DIM G6(8),G7(8)
        61410 PRINT @2:107,66
        61420 PRINT @2:2:
        61430 REM*
        61440 REM*
        61450 REM*
                UPDATE PLOTFILES
        61460 F1="PLOTFILES"
        61470 GOSUB 60000
        61480 INPUT @2,61A
        61490 IF A<2 THEN 61520
        61500 INPUT @2:14
        61510 G5 TO 61460
        61520 PRINT @2:13
        61530 PRINT @2:2:
        61540 RETURN

```

61620 REM IS TO BE PRINTED OUT TO 3 DECIMAL PLACES
61630 REM RESULTANT STRING IS PASSED BACK IN L\$
61640 REM FORMAT OF RESULT SD,DDD WITH LENGTH OF 6

61641 K\$=SEG(L\$,2,1)
61642 IF K\$="" THEN 61750
61650 Q\$=POS(L\$,E\$,1)
61660 IF Q\$=0 THEN 61700
61670 L\$=SEG(L\$,1,Q\$)
61680 Q\$=Q\$-1
61690 RETURN

+++++ 61700 REM NUMBER IS IN SCIENTIFIC NOTATION

61710 K\$=SEG(L\$,00+1,4)
61720 Q\$=VAL(K\$)
61730 IF Q\$=0 THEN 61800
61740 IF Q\$=-4 THEN 61780
61750 L\$=" 0.000"

+++++

61760 Q\$=6
61770 RETURN
61780 K\$=SEG(L\$,1,1)
61785 K\$=K\$*0.
61790 GO TO -00 OF 61820,61810,61800

+++++

61800 N\$=K\$*0.
61810 K\$=K\$*0.
61820 Q\$=6-LEN(N\$)
61830 L\$=SEG(L\$,2,00+1)
61840 L\$=REP(" ",2,1)
61850 L\$=K\$XL\$

+++++

61860 Q\$=6

61870 RETURN

+++++

+++++ 61880 REM SECTION TO PRINT OUT \$>0

61890 L\$=SEG(L\$,1,5)
61900 L\$=L\$*E\$
61910 L\$=L\$*E\$
61920 Q\$=6+LEN(K\$)
61930 RETURN

FILE # 3

```

100 INIT
104 DATA 33,11,32
105 READ U1,U2,U3
110 DIM U4(U),U5(0)
111 DIM T(40)
112 DATA 12.706,4.303,3.182,2.776,2.579,2.451,2.366,2.307,2.262,2.228
113 DATA 2.201,2.179,2.16,2.145,2.131,2.12,2.11,2.101,2.093,2.086,2.08
114 DATA 2.074,2.069,2.064,2.06,2.056,2.052,2.049,2.046,2.043,2.04
115 DATA 2.037,2.035,2.033,2.03,2.028,2.027,2.025,2.023,2.022
116 READ I7
119 FIND Q02:0
120 FIND Q02:2
140 INPUT Q02:6:A
150 IF A=1 THEN 3355
160 INPUT Q02:U5:U5
170 DIM N1(20),T1(20),T(24),T$(40),X$(30),Y$(30),P(34),L$(60),A$(3)
190 PRINT Q03,1714

195 REM#
196 REM# GET LIST OF FILES TO BE PLOTTE#
197 REM#

270 F$="PLOTFILES"
290 GOSUB 4845
290 I=0
+++1+++
300 I=I+1
304 INPUT Q02:6:A
305 IF I=1 AND A=1 THEN 3360
310 INPUT Q02:N1(I)
320 INPUT Q02:6:T1(2)
330 IF T1(2)=2 THEN 300
340 T1(1)=I

350 REM#
360 REM# START PLOT LOOP
370 REM#

380 FOR I9=1 TO T1(1)
385 FIND Q02:0
390 FIND Q02:N1(I9)
400 INPUT Q02:Z4
410 INPUT Q02:L$
420 INPUT Q02:X$
430 INPUT Q02:Y$
440 INPUT Q02:A$
450 INPUT Q02:ID$
460 INPUT Q02:F
465 IF P(8)=0 THEN 3350
470 DIM X(P(8)),Y(P(8))
475 N=P(8)
480 INPUT Q02:X,Y

490 REM#
500 REM# SET DEFAULT PLOT PARAMETER
510 REM#
520 REM T(4)-MIN X VALUE OF GRAPH T(5)-LENGTH OF X AXIS
530 REM T(14)-MIN Y VALUE T(15)-LENGTH OF Y AXIS

```

```

11111111 540 VIEWPORT 0,130,0,100
550 WINDOW 0,130,0,100
560 T=0
570 T(1)=F(8)
580 T(2)=2
590 T(3)=4
600 T(4)=10
610 T(5)=70
620 T(8)=1
630 T(9)=1
640 T(14)=25
650 T(15)=70
660 T(18)=1
670 T(19)=1

680 REM LABEL PLOT
690 REM TITLE GRAPH

700 X0=T(5)/2+T(4)-LEN(L$)*7/8
710 Y0=97
720 PAGE
730 MOVE @U3:X0,Y0
740 PRINT @U3:L$

750 REM RUMF X AXIS TITLE

760 X0=T(5)/2+T(4)-LEN(X$)*7/8
770 Y0=T(14)-10
780 MOVE @U3:X0,Y0
790 PRINT @U3:X$

800 REM RUMF Y AXIS LABEL

810 X0=3
820 Y0=T(15)/2+T(14)+LEN(Y$)*10/7
830 MOVE @U3:X0,Y0
840 PRINT @U3:Y$
850 FOR Z=1 TO LEN(Y$)
860 Z$=SEG(Y$,Z,1)
870 PRINT @U3:Z$
880 NEXT Z

890 REM DISPLAY INFO ON RIGHT SIDE OF PLOT

900 X0=T(4)+T(5)+5
910 Y0=T(14)+T(15)-2
920 MOVE @U3:X0,Y0
930 PRINT @U3:AGENT: *JA$
940 Y0=Y0-3
950 MOVE @U3:X0,Y0
960 PRINT @U3:DATE: *JD$
970 Y0=Y0-6
980 MOVE @U3:X0,Y0
990 PRINT @U3:STATISTICS*
1000 MOVE @U3:X0,Y0-0.5
1010 PRINT @U3:-----
1020 Y0=Y0-4
1030 Y0=3
1040 GO TO 1110
1050 MOVE @U3:X0,Y0

```

```

1040 IMAGE FA,2D,3D,FA,B
1050 PRINT Q03:"LACK OF FIT:"
1060 Y0=Y0-3
1070 MOVE Q03:X0,Y0
1080 PRINT Q03: USING 1040:"P(16)!"
1090 IF P(22)=0 THEN 1110
1100 PRINT Q03: USING 1040:"/P(22)!"
1110 Y0=Y0-3
1120 MOVE Q03:X0,Y0
1130 PRINT Q03:"WARTLETTIS"
1140 Y0=Y0-3
1150 MOVE Q03:X0,Y0
1160 PRINT Q03: USING 1040:"P(14)!"
1170 IF P(20)=0 THEN 1190
1180 PRINT Q03: USING 1040:"/P(20)!"
1190 Y0=Y0-3
1200 IMAGE FA,2D,3D
1210 MOVE Q03:X0,Y0
1220 PRINT Q03:"R-SQUARED!"
1230 Y0=Y0-3
1240 MOVE Q03:X0,Y0
1250 IMAGE FA,3E
1260 Y0=Y0-3
1270 MOVE Q03:X0,Y0
1280 PRINT Q03:"HSE!"
1290 Y0=Y0-3
1300 MOVE Q03:X0,Y0
1310 PRINT Q03: USING 1220:"P(23)"
1320 Y0=Y0-3
1330 IMAGE FA,3E
1340 Y0=Y0-3
1350 MOVE Q03:X0,Y0
1360 PRINT Q03:"PARAMETERS"
1370 MOVE Q03:X0,Y0-0.5
1380 PRINT Q03:"-----"
1390 Y0=Y0-4
1400 IMAGE FA,3D,2D,FA,2D,3D,FA,B
1410 MOVE Q03:X0,Y0
1420 PRINT Q03:"Y="
1430 GO TO P(3) OF 1381,1385,1390,1410,1430,1450,1470,1490
1440 PRINT Q03:"BX"
1450 GO TO 1494
1460 PRINT Q03:"a + BX"
1470 GO TO 1491
1480 PRINT Q03:"aEXP(BX)"
1490 GO TO 1491
1500 PRINT Q03:"1/(a + BX)"
1510 GO TO 1491
1520 PRINT Q03:"a + B/X"
1530 GO TO 1491
1540 PRINT Q03:"a + BLOG(X)"
1550 GO TO 1491
1560 PRINT Q03:"aX^b"
1570 GO TO 1491
1580 PRINT Q03:"X/(a + BX)"
1590 Y0=Y0-3
1600 MOVE Q03:X0,Y0
1610 PRINT Q03: USING 1236:"a= P(4)"
1620 Y0=Y0-3
1630 MOVE Q03:X0,Y0
1640 PRINT Q03: USING 1236:"b= P(5)"

```

```

1497 IF P(7)=0 THEN 1540
1500 Y0=Y0-3
1501 MOVE R03: X0+I9,Y0
1510 MOVE R03: X0,Y0
1520 PRINT R03: "S(X) = c(X + e)^d"
1531 Y0=Y0-3
1532 MOVE R03: X0+I9,Y0
1533 PRINT R03: USING 1236: "c= ",P(6)
1534 Y0=Y0-3
1535 MOVE R03: X0+I9,Y0
1536 PRINT R03: USING 1236: "d= ",P(7)
1537 Y0=Y0-3
1538 MOVE R03: X0+I9,Y0
1539 PRINT R03: USING 1236: "e = ",P(30)
1540 Y0=Y0-3
1541 MOVE R03: X0,Y0
1542 PRINT R03: "Y' = (Y + f)^g"
1543 Y0=Y0-3
1544 MOVE R03: X0,Y0
1545 PRINT R03: "X' = X + h"
1550 Y0=Y0-3
1551 MOVE R03: X0+I9,Y0
1552 PRINT R03: USING 1236: "f = ",P(31)
1553 Y0=Y0-3
1554 MOVE R03: X0+I9,Y0
1555 PRINT R03: USING 1236: "g = ",P(29)
1556 Y0=Y0-3
1557 MOVE R03: X0+I9,Y0
1558 PRINT R03: USING 1236: "h = ",P(32)
1559 MOVE R03: I(4)+I(5),I(14)
1560 DRAW R03: I(4)+I(5),I(14)+I(15)
1561 DRAW R03: I(4),I(14)+I(13)
1600 GOSUB 5205
1700 IF U3=1 THEN 1770
1710 PRINT "END"
1720 PRINT "DO YOU WANT A PLOTTER PLOT OF THIS PLOT? (Y/N)"
1730 INPUT B4
1740 IF B4<>"Y" THEN 1770
1750 U3=10
1760 GO TO 540
1770 U3=32
1771 GO TO 3255
1775 NEXT I9
3265 REM
3335 FIND 4
3345 OLD
14111111 3450 PRINT "NO DATA SETS FOUND ON THIS TAPE"
14111111 3455 END
14111111 3460 PRINT "THERE ARE NO PLOT FILES CURRENTLY QUEUED TO BE PRINTED"
14111111 3461 END
3465 REM
3475 REM4 PLOT SUBROUTINES
1495 REM

```

```

3405 U9=4
3425 GOSUB 4305
3435 U9=14
3445 GOSUB 4305
3455 U8=4
3465 VIEWPORT T(4),T(4)+T(5),T(14),T(14)+T(15)
3475 WINDOW T(6),T(6)+T(7),T(16),T(16)+T(17)
3485 AXIS 0:3:T(8),T(18)
3495 U1=1
3505 R2=T(10)/(T(17)/T(15))
3515 R3=T(14)
3525 U4=STR(T(12)+(U1-1)*T(18))
3535 PRINT 0:3,21:0 MAX T(4)-(LEN(U4)+1)*1.78,R3-0.89
3545 PRINT 0:3:U4
3555 IF U1>T(19) THEN 3595
3565 R3=R3/R2
3575 U1=U1+1
3585 GO TO 3525
3595 R2=T(8)/(T(7)/T(5))
3605 R3=T(4)
3615 U1=1
3625 U4=STR(T(6)+(U1-1)*T(8))
3635 PRINT 0:3,21:0 MAX R3-(LEN(U4)+1)*1.78*0.5,T(14)-4
3645 PRINT 0:3:U4
3655 IF U1>T(9) THEN 3695
3665 R3=R3/R2
3675 U1=U1+1
3685 GO TO 3625
3695 FOR U1=1 TO T(1)
3705 IF T(2)<1 THEN 3725
3715 IF U1>1 THEN 3745
3725 MOVE 0:3:X(U1),Y(U1)
3735 GO TO 3755
3745 0:3:0:3:X(U1),Y(U1)
3755 GOSUB 3765
3765 NEXT U1
3775 RETURN

```

```

---I---
3785 S2=T(14+3)/T(14+1)*0.75
3795 S1=T(4+3)/T(4+1)*0.75
3805 GO TO 143 OF 4095,3825,3885,3955,4025

```

```

3815 GO TO 4095
3825 MOVE 0:3:0.52
3835 KURAM 0:3:S1,-2*S2
3845 KURAM 0:3:-2*S1,0
3855 KURAM 0:3:S1,2*S2
3865 MOVE 0:3:0,-52
3875 RETURN
3885 KURAM 0:3:0.52
3895 KURAM 0:3:0.52

```

```

3905 KURAM 0:3:-51,0
3915 KURAM 0:3:2*S1,0
3925 KURAM 0:3:-51,0
3935 KURAM 0:3:0,-52
3945 RETURN
3955 KURAM 0:3:S1,-2*S2
3965 KURAM 0:3:-2*S1,0
3975 KURAM 0:3:S1,2*S2
3985 KURAM 0:3:0,2*S2

```



```

3995 KROVE W03:2*SI:0
4005 KROVE W03:1-S1-S2
4015 RETURN
4025 KROVE W03:0-S2
4035 KROVE W03:1-S1-S2
4045 KROVE W03:1-S1-S2
4055 KROVE W03:1-S1-S2
4065 KROVE W03:1-S1-S2
4075 KROVE W03:0-S2
4085 RETURN
4095 IF 172)=1 THEN 4115
4105 KROVE W03:0:0
4115 RETURN

```

```

---1---
4125 Y(16)=10*39
4135 Y(17)=1(22)
4145 FOR UI=1 TO 1(1)
4155 Y(15)=Y(16) MIN Y(01)
4165 Y(17)=Y(17) MAX Y(01)
4175 NEXT UI
4185 Y(17)=Y(17)-Y(16)
4195 Y(17)=Y(17)*(19=0)+(19=0)
4205 RETURN

```

```

---1---
4215 Y(6)=10*39
4225 Y(7)=1(12)
4235 FOR UI=1 TO 1(1)
4245 Y(6)=Y(6) MIN X(01)
4255 Y(7)=Y(7) MAX X(01)
4265 NEXT UI
4275 Y(7)=Y(7)-Y(6)
4285 Y(7)=Y(7)*(17=0)+(17=0)
4295 RETURN

```

```

---2---
4305 DIM S0(5)
4315 S0(1)=INT(1(09+1)/15)
4325 S0(3)=1(09+4)/50(3)
4335 S0(4)=1(09+8)/50(3))*SGN(LGT(S0(3)))
4345 S0(4)=70(10)*S0(4)+1.0E-4)
4355 IF S0(4) 0 THEN 4375
4365 S0(3)=1
4375 S0(4)=1
4385 GO TO 4475
4395 S0(5)=S0(3)/S0(4)
4405 S0(3)=S0(4)*10
4415 IF S0(3) 10 THEN 4445
4425 S0(3)=S0(3)+5
4435 IF S0(3) 5 THEN 4455
4445 S0(3)=S0(3)+2
4455 IF S0(3) 2 THEN 4475
4465 S0(3)=S0(3)+1
4475 S0(3)=1(09+4)/50(3)
4485 IF S0(3) 1 THEN 4505
4495 S0(3)=S0(3)+2
4505 S0(3)=S0(3)+1
4515 S0(3)=S0(3)+1(09+4)/50(3))*SGN(S0(3))
4525 S0(3)=S0(3)+1(09+4)/50(3)
4535 IF S0(3) 0 THEN 4545

```

```

4545 S0(3)=S0(3)+1
4555 S0(3)=S0(3)+1
4565 S0(3)=S0(3)+1
4575 S0(3)=S0(3)+1
4585 S0(3)=S0(3)+1
4595 S0(3)=S0(3)+1
4605 S0(3)=S0(3)+1
4615 S0(3)=S0(3)+1
4625 S0(3)=S0(3)+1
4635 S0(3)=S0(3)+1
4645 S0(3)=S0(3)+1
4655 S0(3)=S0(3)+1
4665 S0(3)=S0(3)+1
4675 S0(3)=S0(3)+1
4685 S0(3)=S0(3)+1
4695 S0(3)=S0(3)+1
4705 S0(3)=S0(3)+1
4715 S0(3)=S0(3)+1
4725 S0(3)=S0(3)+1
4735 S0(3)=S0(3)+1
4745 S0(3)=S0(3)+1
4755 S0(3)=S0(3)+1
4765 S0(3)=S0(3)+1
4775 S0(3)=S0(3)+1
4785 S0(3)=S0(3)+1
4795 S0(3)=S0(3)+1
4805 S0(3)=S0(3)+1
4815 S0(3)=S0(3)+1
4825 S0(3)=S0(3)+1
4835 S0(3)=S0(3)+1
4845 S0(3)=S0(3)+1
4855 S0(3)=S0(3)+1
4865 S0(3)=S0(3)+1
4875 S0(3)=S0(3)+1
4885 S0(3)=S0(3)+1
4895 S0(3)=S0(3)+1
4905 S0(3)=S0(3)+1
4915 S0(3)=S0(3)+1
4925 S0(3)=S0(3)+1
4935 S0(3)=S0(3)+1
4945 S0(3)=S0(3)+1
4955 S0(3)=S0(3)+1
4965 S0(3)=S0(3)+1
4975 S0(3)=S0(3)+1
4985 S0(3)=S0(3)+1
4995 S0(3)=S0(3)+1
5005 S0(3)=S0(3)+1

```

```

4325 S0(5)=S0(5)+.9999
4345 S0(2)=S0(3)*(INT(ARG(S0(5)))*SGN(S0(5)))
4365 S0(5)=S0(2)+S0(1)
4385 S0(4)=INT(INT(ARG(S0(5)))*SGN(S0(5)))/S0(3))
4395 IF S0(5)=1 THEN 4605
4405 S0(3)=S0(5)
4425 S0(4)=1
4435 IF S0(3)=21 THEN 4635
4445 S0(3)=S0(5)
4465 S0(4)=1
4475 T(U915)=S0(1)
4485 T(U915)=S0(3)
4495 T(U915)=S0(4)
4505 T(U915)=1.75*T(U915)/T(U915)
4525 RETURN

```

```

4595 X4=X0IF(32)
4700 GO TO F(3) OF 4705,4705,4725,4745,4765,4785,4805,4825
4725 Y0=(F(1)+F(2)*X4)^(1/P(29))-P(31)
4745 RETURN
4765 Y0=(F(4)*EXP(F(5)*X4))^(1/P(29))-P(31)
4785 RETURN
4805 Y0=(1/(F(4)+F(5)*X4))^(1/P(29))-P(31)
4825 RETURN
4845 Y0=(F(4)+F(5)/X4)^(1/P(29))-P(31)
4865 RETURN
4885 Y0=(F(4)+F(5)*LOG(X4))^(1/P(29))-P(31)
4905 Y0=(F(4)*X4+P(5))^(1/P(29))-P(31)
4925 RETURN
4945 Y0=(F(4)+P(5)*X4)^(1/P(29))-P(31)
4965 RETURN

```

```

4845 REM FIND/OPEN
4865 REM (F,N9)

```

```

4340 FIND P0210
4365 FIND P0211
4375 INPUT P0214
4385 J4=SEQ(B4,1,2)
4895 IF J4<105 THEN 5175
4905 INPUT P0216A
4915 IF A=1 THEN 4995
4925 INPUT P0218
4935 DIM J4(10)
4945 J4=SEQ(B4,4,10)
4955 PRINT J4
4965 DIM J4(1)
4975 IF J4=1 THEN 5035
5005 GO TO 4905

```

```

4985 GOTO 4905

```

```

5035 PRINT "ERROR *** FILE IF NOT FOUND"
5045 CLOSE
5055 END

```

```

111111 5035 JK-SEG(4,1,3)
5035 N9-VAL(4)
5050 F100 00210
5055 F100 00210
5055 F100 00210
5075 D10 11(10)
5095 JK-SEG(4,1,10)
5095 F100(10)
5105 D10 11(10)
5115 IF 11 11 THEN 5135
5125 RETURN
5135 PRINT "FIVE DOES NOT MATCH INTERNAL NAME"
5145 PRINT "INDEX NAME = 'F100' INTERNAL NAME = 'F100'"
5155 PRINT 00210
5165 END
111111 5175 PRINT "DATA TAPE IN EXTERNAL TAPE UNIT IS NOT A 108 DATA TAPE"
5185 PRINT 00210
5195 END

```

---1--- 5205 REM# FLOT DATA, CURVE AND CONFIDENCE LIMITS

```

5215 GOSUB 4125
5225 GOSUB 4215
5235 07-X0
5245 00-X0
5255 00 10 5357

```

5265 REM# ADJUST RANGE OF FIT

```

5275 X0-T(6)
5285 GOSUB 4695

```

5295 REM# GET CONFIDENCE LIMITS

```

5270 GOSUB 5715
5275 GOSUB 6155
5285 LO=LO MAX 0
5295 T(7)=T(7)+T(6)-LO
5305 T(6)=LO
5315 X0-T(6)+T(7)
5325 GOSUB 4695

```

5335 REM# GET CONFIDENCE LIMITS

```

5340 GOSUB 5715
5345 GOSUB 6155
5355 T(7)=T(7)+LO-X0

```

5365 REM# ADJUST X RANGE

```

5377 T(6)=T(6)+0.1*(7)
5385 T(6)=T(6) MAX 0.01*(7)
5395 T(7)=T(7)+1.2

```

5405 REM# ADJUST Y-RANGE

```

5425 T(15)=T(15)+0.05*(17)
5435 T(16)=T(16) MAX 0.01*(17)

```

```

5395 T(17)-T(17)*1.1
5405 REM# PLOT OBSERVED DATA
5415 GOSUB 3395
5505 REM#
5515 REM# DRAW BUI:UPPER AND LOWER CONFIDENCE LIMITS
5525 REM#
5530 REM T(16)-T(16)+0.01*T(17)
5535 Y0=T(16)
5545 GOSUB 5715
5550 Y0=T(16)
5555 MOVE BUI:X0,Y0
5595 FOR Y0=T(16) TO T(16)+T(17) STEP T(17)/100
5600 Y0=Y0
5605 GOSUB 5715
5605 Y0=Y0
5605 DRAW BUI:X0,Y0
5606 NEXT Y0
5607 REM DELETE NEXT LINE TO GET CONFIDENCE LIMITS AND DE/LIM BACK
5608 GO TO 5708
5609 Y0=T(16)
5610 GOSUB 5715
5612 Y0=T(16)
5614 Y0=T(16)
5615 GOSUB 6155
5620 Y0=T(16)
5625 MOVE BUI:X0,Y0
5630 FOR Y0=T(16) TO T(16)+T(17) STEP T(17)/100
5631 Y0=Y0
5632 GOSUB 5715
5633 Y0=Y0
5634 GOSUB 6155
5635 Y0=Y0
5636 DRAW BUI:X0,Y0
5637 IF Y0=0 THEN 5640
5638 Y0=0
5639 NEXT Y0
5640 GO TO 5078
5642 Y0=T(16)
5645 GOSUB 5715
5646 Y0=T(16)
5650 GOSUB 6155
5652 Y0=T(16)
5655 MOVE BUI:X0,Y0
5660 FOR Y0=T(16) TO T(16)+T(17) STEP T(17)/100
5662 Y0=Y0
5665 GOSUB 5715
5665 Y0=Y0
5670 GOSUB 6155
5672 Y0=Y0
5675 DRAW BUI:X0,Y0
5680 NEXT Y0
5685 T4=10000
5686 FOR T5=1 TO N
5687 T4=T4 MIN X(T5)

```

+++++

```

5600 NEXT I5
5689 IF D8>T4 THEN 5697
5690 D8=I4
5697 VIEWPORT 0,130,0,100
5698 WINDOW 0,130,0,100
5699 X4=DETECTION LIMIT I5
5700 Y4=SIRCHQ
5701 Y0=F03(Y4,.,.,1)
5702 Y4=SEGAY,1,Y0+2
5703 X4=X4Y4
5704 X0=I(5)/2+I(4)-LEN(X4)*7/8
5705 Y0=I(14)-14
5706 MOVE G01:X0,Y0
5707 PRINT G01:X4
5708 RETURN

-----
5715 REM# SOLVE LINEAR REGRESSION IN REVERSE FOR X0
5725 REM# (Y0,X0)
5735 REM# TRANSFORM Y0
5745 REM# TRANSFORM Y0
5750 Y0=(Y0+P(31))/P(29)
5755 GOSUB F(3) OF 5025,5045,5065,5085,5905,5925,5945,5965
5765 X7=(Y7-P(1))/P(2)
5795 REM# INVERSE TRANSFORM OF X7

5805 GOSUB F(3) OF 5985,6005,6025,6045,6065,6085,6105,6125
5810 Y0=X0-F(32)
5815 RETURN

```

```

-----
1--- 5825 Y7=Y0
5835 RETURN

```

```

-----
1--- 5845 Y7=Y0
5855 RETURN

```

```

-----
1--- 5865 Y7=LOG(Y0)
5875 RETURN

```

```

-----
1--- 5895 Y7=1/Y0
5895 RETURN

```

```

-----
1--- 5905 Y7=Y0
5915 RETURN

```

```

-----
1--- 5925 Y7=Y0
5935 RETURN

```

```

-----
1--- 5945 Y7=LOG(Y0)
5955 RETURN

```

5765 Y7=L/Y0
5975 RETURN

5985 X0=X7
5995 RETURN

6005 X0=X7
6015 RETURN

6025 X0=X7
6035 RETURN

6045 X0=X7
6055 RETURN

6065 X0=1/X7
6075 RETURN

6085 X0=EXP(X7)
6095 RETURN

6105 X0=EXP(X7)
6115 RETURN

6125 X0=1/X7
6135 RETURN

6145 REM#

6155 REM# SOLVE LINEAR REGRESSION IN REVERSE FOR
6165 REM# UPPER AND LOWER CONFIDENCE LIMITS
6175 REM# (Y0,X0ILO,U0)
6185 REM# T-VALUES L=.025 U=.975
6195 REM#

6205 I3=0

6215 U0=0

6216 IF F(8)>40 THEN 6220

6217 I3=1/(N-2)

6218 GO TO 6225

6220 I9=1.96

6225 REM# TRANSFORM Y0

6230 Y0=(Y0/F(31))^F(29)

6235 GOSUB F(3) OF 6395,6415,6435,6455,6475,6495,6515,6535

6245 I3=I9^2*F(6)

6250 B1=F(2)^2-F(10)*I3

6255 B1=F(2)*(Y7-F(1))-F(11)*I3

6256 A9-(0.4342+1.1734*X7)^2*P(7)
6257 B3=0
6260 A2=A9*P(12)
6265 B2=Y7-P(1)
6275 A3=134*P(11)^2-134*P(10)*A2+P(2)^2*A2+P(10)*B2^2-2*P(2)*P(11)*B2
6305 B3=19*SQRT(A3*P(6))
6295 X7=(B1+B3)/A1
6305 REM* INVERSE TRANSFORM OF X7
6315 GOSUB P(3) OF 6555,6575,6595,6615,6635,6655,6675,6695
6325 L0=X0-P(32)
6335 X8=(B1-B3)/A1
6345 REM* INVERSE TRANSFORM OF X8
6355 X7=X8
6365 GOSUB P(3) OF 6555,6575,6595,6615,6635,6655,6675,6695
6375 U0=X0-P(32)
6385 RETURN

---1--- 6395 Y7=Y0
6405 RETURN

---1--- 6415 Y7=Y0
6425 RETURN

---1--- 6435 Y7=1.06(Y0)
6445 RETURN

---1--- 6455 Y7=1/Y0
6465 RETURN

---1--- 6475 Y7=Y0
6485 RETURN

---1--- 6495 Y7=Y0
6505 RETURN

---1--- 6515 Y7=1.06(Y0)
6525 RETURN

---1--- 6535 Y7=1/Y0
6545 RETURN

---2--- 6555 Y0=X7
6565 RETURN

---2--- 6575 X0=X7
6585 RETURN

6595 X0=X7
6605 RETURN

6615 X0=X7
6625 RETURN

6635 X0=1/X7
6645 RETURN

6655 X0=EXP(X7)
6665 RETURN

6675 X0=EXP(X7)
6685 RETURN

6695 X0=1/X7
6705 RETURN

6715 REM*DRAW MU

6720 SET DEGREES
6730 VIEWPORT 0,130,0,100
6740 WINDOW 0,130,0,100

6750 REM*H0 - PRINTED LINE HEIGHT
6760 REM*H1 - PRINTED CHARACTER HEIGHT
6770 REM*H2 - WIDTH OF SPACE
6780 REM*H3 - WIDTH OF A CHARACTER

6790 S0=15
6800 H0=2.82
6810 H1=1.88
6820 H2=1.79
6830 H3=1.55
6840 MOVE EU3:X0+H0/20,Y0+H2/20
6850 KIRAW EU3:H3/S0,H1*5/S0
6860 FOR I=1 TO S0/2

6870 KIRAW EU3:H1/S0
6880 NEXT I
6890 FOR I=1 TO S0/2
6900 KIRAW EU3:H0,-H1/S0
6910 NEXT I

6920 FOR I=0 TO 180 STEP S0*3/2
6930 ROTATE I+270

6940 KIRAW EU3:H1/S0,0
6950 NEXT I

6960 FOR I=1 TO S0/2
6970 KIRAW EU3:H1/S0,0

6980 NEXT I
6990 FOR I=1 TO S0/2

7000 KIRAW EU3:-H1/S0,0
7010 NEXT I

7020 FOR I=270 TO 360 STEP S0/2*3


```

7030 ROTATE I
7040 KDRAW Q03:H1/S0,0
7050 NEXT I
7060 MOVE Q03:X0+H2*1.1,Y0+0.1*H0
7070 RETURN
7999 REM*DRAW RHO

8000 SET DEGREES
8010 VIEWPORT 0,130,0,100
8020 WINDOW 0,130,0,100

8030 REM*H0 - PRINTED LINE HEIGHT
8040 REM*H1 - PRINTED CHARACTER HEIGHT
8050 REM*H2 - WIDTH OF SPACE
8060 REM*H3 - WIDTH OF A CHARACTER

8070 MOVE Q03:X0-H1/2,Y0
8080 FOR I=-95 TO 265 STEP 15
8090 ROTATE I
8100 KDRAW Q03:H3/S0*1.3,0
8110 NEXT I
8120 ROTATE -5
8130 KDRAW Q03:0,-10*H3/S0
8140 RMOVE Q03:H3,0
8150 RETURN

```

THE FOLLOWING LINE NUMBERS ARE BRANCHED TO BUT DO NOT EXIST IN THIS TAPE FILE (# 3)
 A --* BEFORE THE LINE NUMBER INDICATES IT IS BRANCHED TO AS A SUBROUTINE (VIA A '0060B' OR '0N').

[illegible]

210 REM*
211 RFM* GET LIST OF FILES TO BE PLOTTED
212 REM*

```

220 K9=0
230 P9=9*H
240 K2=0
250 F9=PLD1500*
260 G05UR 4945
270 INPUT 00276:A
280 IF A<2 G00 K9
292 IF A<2 THEN 1
284 INPUT 00270:
296 INPUT 00270:

```

```

288 INPUT Q02:Q$
290 INPUT Q02:C,P(25),P(26),P(28)
300 K2=K3+1
310 IF K2=K3 THEN 321
320 GO TO 270
+++1+++
321 F5=0
322 IF P(28)=4 THEN 330
323 PRINT "IS THIS THE FIRST STAT RUN FOR TODAY? (Y/N)"
324 INPUT A$
325 IF A$="Y" THEN 330
326 F5=1
+++2+++
330 REM* SET X LABEL
350 H$=SEG(D$,4,2)
355 REM* SET X LABEL
360 A$=SEG(D$,1,2)
361 A=VAL(A$)
362 A=(A-1)*9+1
363 X$=SEG(C$,A,9)
370 REM$ GET HISTORY Q
372 RESTORE 381
375 F1="NO" & M$
380 GOSUB 4845
381 DATA 0,0,0,0
382 READ F1,F2,F3,F4
390 INPUT Q02:K1,Q7,X9,Y9,M9,U9,L9,Y8,M8,U8,L8
395 INPUT Q02:Q8,Q9,F1,F2,F3,F4
396 FOR I=1 TO 31
397   X9(I)=I
398 NEXT I
400 M8=VAL(N$)
415 K1=P(28)+F5&K1
416 F1=0
417 F5=0
420 REM$ Q7(Q8)=(Q9(Q7)*(K-1)+P(25))/K
430 REM$ M8(Q8)=(M8(Q7)*(K-1)+P(26))/K
440 Y9(Q8)=P(25)+Y9(Q8)
450 Y8(Q8)=P(26)+Y8(Q8)
460 IF K1=4 THEN 551
461 PRINT "NO QC PLOT WILL BE PRODUCED FOR 'M$' AT LEVEL 'Q1'."
462 PRINT "SINCE FOUR QC DATA POINTS ARE NOT YET AVAILABLE."
463 GO TO 1080
465 GO TO 551
470 U9=Q9(Q8)+U9(Q8)
480 L9=Q9(Q8)+L9(Q8)
490 Q8=F5&K1+Q8(Q8)
500 L8=K1+L8(Q8)
510 Q8=Q8+Q8(Q8)
520 Q8=Q8+Q8(Q8)
530 Q8=Q8+Q8(Q8)
540 Q8=Q8+Q8(Q8)
550 L8(Q8)=(1-3/500*(2*K1))*M8(Q8)

```

```

++131++ 551 REM* SET WARNING FLAGS
552 IF NOT(Y9(D8)>Y9(D8)) OR Y9(D8)<L9(D8)) THEN 554
553 F1=1
++141++ 554 IF NOT(Y8(D8)>Y8(D8)) OR Y8(D8)<L8(D8)) THEN 556
555 F3=1
++151++ 556 REM* ZERO OUT DATA FROM D7 TO D8
557 IF D7=D8 THEN 573
558 I=0
559 IF D8>D7 THEN 562
561 I=0
562 I=I+1
563 IF I=D8 THEN 573
564 Y9(I)=1
565 Y8(I)=1
566 GO TO 562
++161++ 573 REM*
574 REM* UPDATE WARNING
621 F2=0
622 F4=0
623 FOR I=6 TO 1 STEP -1
630 W8(I+1)=W8(I)
640 W9(I+1)=W9(I)
650 NEXT I
660 IF Y9(D8)>W9(D8) THEN 690
670 W9(I)=1
680 GO TO 700
690 W9(I)=1
700 IF Y8(D8)>W8(D8) THEN 730
710 W8(I)=1
720 GO TO 740
730 W8(I)=1
740 FOR I=1 TO 7
750 F2=F2+W9(I)
760 F4=F4+W8(I)
770 NEXT I
771 F2=ABS(F2)
772 F4=ABS(F4)
780 REM* PLOT QC CHARTS
790 L$="ACCURACY CONTROL CHART FOR *IM*
810 Y$="
820 W$="
900 Y1=L9
910 Y2=W9
920 Y3=W9
931 X=X9
932 Y=Y9
933 I=0
940 IF NOT(F1=1 OR F2=7) THEN 950
945 W$="WARNING - PROCESS IS OUT OF CONTROL"
++171++ 950 REM* GOSUB PLOT
955 GOSUB 1775

```

```

920 IF U3=10 THEN 967
961 PRINT "DO YOU WANT A 4662 PLOT? (Y/N)."
962 INPUT K5
963 A4=SEG$(K5,1,1)
964 IF A4<>"Y" THEN 967
965 U3=10
966 GOSUB 1775
++2+++
967 U3=32
970 L4="PRECISION CONTROL CHART FOR "
980 M4=" "
990 Y=Y8
1000 Y1=L8
1010 Y2=M8
1020 Y3=U8
1025 D=H8
1030 IF ROT(F3=1) THEN 1050
1040 M4="WARNING - PROCESS IS OUT OF CONTROL"
1050 REM# GOSUB PLOT
1055 GOSUB 1775
1056 PRINT "OK"
1060 IF U3=10 THEN 1067
1061 PRINT "DO YOU WANT A 4662 PLOT? (Y/N)."
1062 INPUT K4
1063 A4=SEG$(K4,1,1)
1064 IF A4<>"Y" THEN 1067
1065 U3=10
1066 GOSUB 1775
1067 U3=32
++2+++

1070 REM# UPDATE HISTORY Q FILE

1080 F4="H0"
1090 GOSUB 1775
1200 PRINT "002:K1,D0,X9,Y9,M9,U9,L9,Y8,M8,U8,L8"
1210 PRINT "003:U8,W9,F1,F2,F3,F4"
1215 PRINT "002,21"
1220 GO TO 230

1755 REM#
1760 REM# OC PLQT ROUTINES
1765 REM#

```

```

---4--- 1775 DIM W$(20),J$(20)
1785 DIM X9(31),Y9(31),Y3(31),T(24)
2000 PAGE
2035 REM# HEIGHT OF SPACE
2045 H0=2.02
2055 REM# HEIGHT OF CHARACTER
2065 H1=1.53
2075 REM# WIDTH OF SPACE

```

```

2005 H2=1.79
2055 KLN WIDTH OF CHARACTER
2105 H3=1.55
2115 REM HEIGHT OF TIC MARK
2125 H4=1
2135 REM WIDTH OF TIC MARK
2145 H5=2
2155 VIEWPORT 0,130,0,100
2165 WINDOW 0,130,0,100
2175 REM X MIN
2185 T(4)=15
2195 REM X DOMAIN
2205 T(5)=105
2215 REM Y MIN
2225 T(14)=10
2235 REM Y RANGE
2245 T(15)=75
2255 REM MAX GRAPH
2265 MOVE PUS1(T(4),T(14))
2275 DRAW PUS1(T(4),T(14))+T(15)
2285 DRAW PUS1(T(4)+T(5),T(14))+T(15)
2295 DRAW PUS1(T(4)+T(5),T(14))
2305 DRAW PUS1(T(4),T(14))
2315 REM MAKE TIC MARKS ON X AXIS
2325 FOR I=0 TO 34 STEP 2
2335 MOVE PUS1(T(4)+I*3,T(14)+H4/2)
2345 DRAW PUS1(0,-H4)
2355 REM LABEL THE MARK
2365 MOVE PUS1(H2,-H0)
2375 IF I=0 OR I=34 THEN 2405
2375 IF I=10 THEN 2395
2385 MOVE PUS1(H2+6)
2395 PRINT PUS1(0)
2405 NEXT I
2415 REM PRINT OUT WARNING
2420 G-LIN(04)
2421 Y0=96

```

2423 IF A2Z THEN 2545
2425 X0=T(4)*T(5)-LEN(X\$)*H2)/2
2426 Y0=0
2427 MOVE P03:0,Y0
2428 PRINT P03:0

2429 REM DRAW P03:0X AROUND WARNING

2425 P03:0 P03:0-H2/2,Y0-H0/3
2426 REM P03:0 P03:0-H0/3
2427 REM P03:0 P03:0-H0/3
2428 REM P03:0 P03:0-H0/3
2429 REM P03:0 P03:0-H0/3
2430 REM P03:0 P03:0-H0/3

2431 REM P03:0 P03:0-H0/3

2432 Y0=0

2433 X0=T(4)*T(5)-LEN(X\$)*H2)/2
2434 P03:0 P03:0-Y0
2435 PRINT P03:0

2436 Y0=0
2437 X0=T(4)*T(5)-LEN(X\$)*H2)/2
2438 MOVE P03:0,Y0
2439 PRINT P03:0

2440 REM PRINT X AXIS LABEL

2441 Y0=0
2442 X0=T(4)*T(5)-LEN(X\$)*H2)/2
2443 MOVE P03:0,Y0
2444 PRINT P03:0

2445 REM Y AXIS LABEL

2446 X0=0
2447 Y0=T(4)*T(5)-LEN(Y\$)*H0)/2
2448 MOVE P03:0,Y0
2449 FOR I=1 TO LEN(Y\$) STEP 1
2450 AT SCREEN(I,0)
2451 PRINT P03:0:Y(I)*H0
2452 NEXT I

2453 REM END OF PRELIMINARIES NOW DO PLOTS

2454 Y4=Y1(1)
2455 Y5=Y3(1)
2456 T=T(5)-Y4)/2
2457 O=0
2458 O1=0
2459 O2=0

2460 REM GET THE STUFF

2461 Y4=Y1(1)
2462 Y5=Y3(1)
2463 T=T(5)-Y4)/2
2464 O=0
2465 O1=0
2466 O2=0

001100

```

0001000 2763 Y5-Y5 MAX Y(1)
0764 Y5-Y5 MAX Y(1)
2765 NEXT I

2770 REM IN BLOCK 6045 CODE TO PICK NEAT ENDPOINTS FOR Y-AXIS

07700 V5=VPORT 1(4),1(4)+1(5),1(14),1(14)+1(15)
0781 MINROW 0.35,00.01
0795 FOR I=1 TO 4 STEP 1
0800 IF Y(1) = 0 THEN 2045
0811 IF Y(1) = 1 THEN 2000
0822 IF Y(1) = 0 THEN 2500
0835 MOVE P03:X(1),Y(1)
0845 NEXT I

0855 GOSUB 3185
2045 NEXT I
2055 GOSUB 9600
2066 MOVE 0,Y(1)
2077 READ 35,Y(1)
2088 MOVE 35,Y(1)
2099 READ 0,Y(1)
2100 MOVE 0,Y(1)
2101 READ 35,Y(1)
2102 RETURN
2105 MOVE P03:0,Y(1)
2115 FOR I=1 TO 4 STEP 1
2120 IF Y(1) = 0 THEN 2900
2135 READ P03:X(1),Y(1)
2145 READ P03:0,Y(1)+1(1)-Y(1)
2150 GO TO 2905
2160 MOVE X(1+1),Y(1+1)
2175 NEXT I
2185 READ P03:Y(1)
2195 FOR I=1 TO 4
2200 IF I = 1 TO 4
2215 READ P03:0.5,0
2225 READ P03:0.5,0
2235 NEXT I
2245 REM TO Y3

2255 MOVE P03:0,Y3(1)
2265 FOR I=1 TO 4 STEP 1
2270 IF Y(1) = 0 THEN 3015
2285 READ P03:X(1),Y3(1)
2295 READ P03:0,Y3(1)+Y3(1)
2300 GO TO 3020
2315 MOVE X(1+1),Y3(1+1)
2325 NEXT I
2335 READ P03:X(1),Y3(1)
2345 FOR I=1 TO 4 STEP 1
2355 MOVE P03:0.5,0
2365 READ P03:0.5,0
2375 NEXT I
2385 REM Y2

2395 MOVE P03:0,Y2(1)
2405 FOR I=1 TO 4 STEP 1
2410 IF Y2(1) = 0 THEN 3125
2425 READ P03:0.5,0
2435 MOVE P03:0.5,Y2(1+1)-Y2(1)

```


3120 GO TO 3130
3130 MOVE X(11),Y2(11)
3140 NEXT I
3150 FOR I=1 TO 5
3160 READ R03:0.5,0
3170 MOVE R03:0.5,0
3180 NEXT I
3190 RETURN

---1--- 3185 REM\$ THIS CENTER'S DIAMOND

3200 FMOVE R03:0,-0.01*(01-00)
3205 R03:0.5,0.01*(01-00)
3210 R03:0.5,0.01*(01-00)
3215 R03:0.5,0.01*(01-00)
3220 R03:0.5,0.01*(01-00)
3225 R03:0.5,0.01*(01-00)
3230 RETURN

3235 READ R03:0.5,0.01*(01-00)

---3--- 4045 REM\$ FIND/DEN
4055 REM\$ (F\$ N9)

4060 FIND R02:0
4065 FIND R02:1
4070 INOUT R02:18
4085 IF 506(00,1,3)
4095 IF J4 *103 THEN 5175
4095 INOUT R02:210
4105 IF 6-1 THEN 4995
4115 INOUT R02:18
4125 IF 14(10)
4135 IF 506(00,1,3) *10
4145 F-LEN(00)
4155 IF 14(10)
4165 IF 14(10) THEN 5035
4175 GO TO 4965

4175 REM\$

5005 PRINT "ERROR #1** FILE *F\$* NOT FOUND"

5015 CLOSE

5025 FIND 1

5035 IF 1

5045 IF 14(10)

5055 IF 14(10)

5065 IF 14(10)

5075 IF 14(10)

5085 IF 14(10)

5095 IF 14(10)

5105 IF 14(10)

5115 IF 14(10)

5125 IF 14(10)

5135 IF 14(10)

5145 IF 14(10)

5155 IF 14(10)

5165 IF 14(10)

5175 IF 14(10)

5185 IF 14(10)

5195 IF 14(10)

5205 IF 14(10)

5215 IF 14(10)

5225 IF 14(10)

```

5125 PRINT PU2:2:
5135 F100 1
5145 0.0
+++++
5175 PRINT "6010 T00C IN EXTERNAL TAPE UNIT IS NOT A IDS DATA TAPE"
5185 PRINT PU2:2:
5195 F100 1
5195 0.0
5205 REM* PLUT OBSERVED DATA
5215 6050B 3395
5215 REM*REAR MU
5220 SET DEGREE'S
5230 9110PORT 0.130,0.100
5240 WINDOW 0.130,0.100
5250 REM*H0 - PRINTED LINE HEIGHT
5260 REM*H1 - PRINTED CHARACTER HEIGHT
5270 REM*H2 - WIDTH OF SPACE
5280 REM*H3 - WIDTH OF A CHARACTER
5290 50=15
5300 10=2.82
5310 H1=1.88
5320 H2=1.79
5330 H3=1.55
5340 MOVE PU3:X0H10/20,Y0H2/20
5350 FORW PU3:H1/50,H1*5/50
5360 FOR I=1 TO 50/2
5370 NEXT I
5380 FOR I=1 TO 50/2
5390 FORW PU3:0,-H1/50
5400 NEXT I
5410 FOR I=0 TO 180 STEP 50*1/2
5420 ROTATE I+270
5430 FORW PU3:H1/50,0
5440 NEXT I
5450 FOR I=1 TO 50/2
5460 FORW PU3:H1/50,0
5470 NEXT I
5480 FOR I=1 TO 50/2
5490 FORW PU3:-H1/50,0
5500 NEXT I
5510 FOR I=270 TO 330 STEP 50/2*3
5520 ROTATE I
5530 FORW PU3:H1/50,0
5540 NEXT I
5550 MOVE PU3:X0H2*1.1,Y0+0.1*H0
5560 RETURN
5570 RETURN END
5580 SET DEGREE'S
5590 9110PORT 0.130,0.100
5600 WINDOW 0.130,0.100
5610 REM*H0 - PRINTED LINE HEIGHT

```

9040 REM#H1 - PRINTED CHARACTER HEIGHT
 9050 REM#H2 - WIDTH OF SPACE
 9060 REM#H3 - WIDTH OF A CHARACTER

9070 MOVE Q03:X0-H1/2,Y0
 9080 FOR I=-95 TO 265 STEP 15
 9090 ROTATE I
 9100 DRAW Q03:H3/50*1.3,0
 9110 NEXT I
 9120 ROTATE -5
 9130 DRAW Q03:0,-10*H3/50
 9140 MOVE Q03:H3,0
 9150 RETURN

9999 REM ROUTINE TO LABEL Y AXIS

---1--- 9000 REM

9070 L3=STR(X1(1))
 9080 GOSUB 21500
 9090 MOVE Q03:0,Y1(1)
 9100 FOR I=1 TO 0011
 9110 PRINT Q03:H*;
 9120 NEXT I
 9130 PRINT Q03:L*;
 9140 L3=STR(Y2(1))
 9150 GOSUB 21600
 9160 MOVE Q03:0,Y2(1)
 9170 FOR I=1 TO 0011
 9180 PRINT Q03:H*;
 9190 NEXT I
 9200 PRINT Q03:L*;
 9210 L3=STR(Y3(1))
 9220 GOSUB 21600
 9230 MOVE Q03:0,Y3(1)
 9240 FOR I=1 TO 0011
 9250 PRINT Q03:H*;
 9260 NEXT I
 9270 PRINT Q03:L*;
 9360 RETURN

111111 9400 REM ROUTINE TO DRAW ARROW POINTING UP

9410 MOVE Q03:X(1),01
 9420 PRINT Q03:J*;
 9430 GO TO 2045

111111 9500 REM ROUTINE TO DRAW UPSIDE DOWN ARROW

9510 MOVE Q03:X(1),00
 9520 L3=STR(127)
 9530 PRINT Q03:L*;
 9540 GO TO 2045

111111 10000 PRINT "NO MORE PLOTS ARE AVAILABLE FOR PLOTTING"

10020 STOP

10030 END

111111 11000 PRINT "ERROR WITH HISTORY TAPE FILE NUMBER 2"

11020 STOP

11030 END

```

---3--- 61660 REM ROUTINE TO PRINT NUMBERS TO 3 DECIMAL PLACES
61610 REMPL$=LFASSED IN CONTAINING NUMBER IN CHARACTER FORM THAT
61620 REM IS TO BE PRINTED OUT TO 3 DECIMAL PLACES
61630 ALM RESULTANT STRING IS PASSED BACK IN L$
61640 ALM FORMAT OF RESULT $D.000 WITH LENGTH OF 6
61650 00=FUS(L$,E$,1)
61660 IF 00=0 THEN 61700
61670 L$=SEG(L$,1,6)
61680 00=6
61690 RETURN

```

```

+++++ 61700 REM NUMBER IS IN SCIENTIFIC NOTATION

```

```

61710 K$=SEG(L$,0011,4)
61720 00=VAL(K$)
61730 IF 00=0 THEN 61800
61740 IF 00=-4 THEN 61780
61750 L$= " 0.000"
61760 00=6
61770 RETURN

```

```

+++++ 61780 K$=SEG(L$,1,1)
61790 K$=K$+"0."
61800 K$=K$+"0"
61810 K$=K$+"0"
61820 00=6-LEN(K$)
61830 L$=SEG(L$,2,0011)
61840 L$=REP(" ",2,1)
61850 L$=K$+L$
61860 00=6
61870 RETURN

```

```

+++++ 61880 REM SECTION TO PRINT OUT $D

```

```

61890 L$=SEG(L$,1,5)
61900 L$=L$+"E"
61910 L$=L$+K$
61920 00=6-LEN(K$)
61930 RETURN

```

THE FOLLOWING LINE NUMBERS ARE BRANCHED TO BUT DO NOT EXIST IN THIS TAPE FILE (* 4)
 A " " BEFORE THE LINE NUMBER INDICATES IT IS BRANCHED TO AS A SUBROUTINE (VIA A "GOSUB" OR "ON")

FILE # 5

```
10 DIM X(4)
110 PAGE
120 PRINT
130 PRINT "ID SETS MANAGEMENT"
140 PRINT "JJJJJJJ"
150 PRINT "Programmed by"
160 PRINT "Computer Sciences Corporation"
170 PRINT "Data Systems Laboratory"
180 PRINT "NATIONAL SPACE TECHNOLOGY LABORATORY"
190 PRINT "NSIL Station, Mississippi 39529"
200 PRINT "JJJJ"
210 PRINT "Version 2x4a"
220 PRINT "FEBRUARY 18, 1981"
230 PRINT
240 PRINT "EXTERNAL LABEL: Y$ IS NOT EQUAL TO TAPE LABEL: IA$"
250 PRINT "WOULD YOU LIKE TO STOP? (Y/N)"
260 INPUT B$
270 IF B$ < "Y" THEN 2100
280 CLOSE
290 PRINT "END"
300 PAGE
310 PRINT
320 PRINT "Error: This is not the correct tape"
330 PRINT "PRESS RETURN TO CONTINUE"
340 INPUT B$
350 IF B$ < "Y" THEN 2100
360 CLOSE
370 PRINT "END"
380 PAGE
390 PRINT
400 PRINT "ENTER USER-ID"
410 INPUT U$
420 PRINT "ENTER DATE MM/DD/YY"
430 INPUT D$
440 PAGE
450 PRINT "INSERT IDS HISTORY TAPE IN EXTERNAL TAPE UNIT # 4924"
460 PRINT
470 PRINT
480 PRINT "ENTER EXTERNAL LABEL ON HISTORY TAPE"
490 INPUT Z$
500 FIND 002:0
510 FIND 002:1
520 A=LEN(Z$)
530 INPUT 002:Y$
540 DIM Y$(A)
550 IF Z$ < Y$ THEN 2120
560 CLOSE
570 PAGE
580 FIND 002:0
590 FIND 002:1
600 PRINT "END"
610 PRINT "END"
```

2370 0110

```

10 U2=11
100 PRINT "ENTER DATE (mm/dd/yy)"
110 INPUT B$
120 PRINT "ENTER HISTORY LABEL (ID$xx...x)"
130 INPUT C$
140 DIM P(31),X(31),W(7),H9(31),M8(31),O0(31),01(31),02(31),03(31)

141 REM PARAMS FOR UNWEIGHTED LEAST SQUARES
142 REM VAR(Y)=N*(AFIX)^2
143 REM WHERE N=FOOLED VARIANCE OF Y

150 P=0
160 F(6)=1
170 F(3)=1
180 F(29)=1
190 W=0
200 Z=0
210 D7=1
220 N=0
230 X4=0

240 PRINT "INSERT NEW HISTORY TAPE IN UNIT #U2
250 PRINT "PRESS 'RETURN' TO CONTINUE"
260 INPUT Z$
270 FIND WU210
280 MARK WU211,3000
290 FIND WU211
300 C1=C3B4
310 PRINT WU21C4
320 PRINT WU21:00:SYSTEM****
330 PRINT WU21:00:FILES*P
340 PRINT WU21:00:FILES*P
350 PRINT WU21:00:FILES*P
360 PRINT WU21:00:FILES*P
370 PRINT WU21:00:FILES*P
380 PRINT WU21:00:FILES*P
390 PRINT WU21:00:FILES*P
400 PRINT WU21:00:FILES*P
410 FIND WU212
420 MARK WU211,1000
430 FIND WU212
440 PRINT WU21:SYSTEM****
450 FIND WU213
460 MARK WU211,5000
470 FIND WU213
480 PRINT WU21:FILES**
490 FIND WU214
500 MARK WU211,5000
510 FIND WU214
520 PRINT WU21:FILES**
530 FIND WU215
540 MARK WU213,5000
550 FIND WU215
560 DIM X(400),Y(400)
570 PRINT "ENTER VALUE VS FOUND DATA FOR H"
580 PRINT "INSERT H DATA TAPE INTO 4052"
590 INPUT A$
600 P=0
610 W1=0
620 PRINT "END OF N"
630 F(7)=1

```

```

2074 P(6)=0.01005
2080 INPUT P(8)
2090 DIM X(P(8)),Y(P(8))
2095 FIND 2
2100 FOR I=1 TO P(8)
2110 INPUT #33:X(I),Y(I)
2120 NEXT I
2130 H1=0
2140 H2=0
2150 H3=0
2160 H4=0
2170 H5=0
2180 H6=0
2185 W=0
2190 FOR I=1 TO P(8)
2195 W0=(0.434294*1.1734*X(I))2-2
2200 H1=H1X(I)*W0
2210 H2=H2Y(I)*W0
2220 H3=H3X(I)*X(I)*W0
2230 H4=H4Y(I)*Y(I)*W0
2240 H5=H5Y(I)*X(I)*W0
2245 W1=0.14W0
2250 NEXT I
2260 G=0.1*H3-H12
2270 F(10)=W1/C
2280 F(11)=H1/C
2290 F(12)=H3/C
2300 F(2)=(W1*H5-H1*H2)/(W1*H3-H12)
2310 F(1)=(H2-F(2)*H1)/W1
2320 F(4)=F(1)
2330 F(5)=F(2)
2340 B=0
2350 FOR I=1 TO P(8)
2360 B=B1(Y(I)-F(1)-F(2)*X(I))2
2370 NEXT I
2380 F(23)=1-B/(H4-H22/F(8))
2390 F(2)=2
2400 F(6)=B/(F(8)-2)
2410 F(9)=1
2420 F(29)=1
2430 F(27)=F(6)
2440 FIND #02:5
2450 PRINT #02:100H *****P*
2460 PRINT #02:104,P
2470 PRINT #02:23
3000 FIND #02:16
3010 PRINT "ENTER QL HISTORY FOR .04"
3020 PRINT "ENTER MEAN(OR CENTRAL STANDARD) FOR .04"
3030 INPUT M1
3040 PRINT "ENTER S.D.(OR STANDARD) FOR .04"
3050 INPUT M2
3060 PRINT "ENTER LOWER LIMIT FOR ACCURACY"
3070 INPUT I
3080 I=I
3090 PRINT "ENTER UPPER LIMIT FOR ACCURACY"
3100 INPUT I
3110 I=I
3120 PRINT "ENTER LOWER LIMIT FOR PRECISION"
3130 INPUT I
3140 I=I
3150 PRINT "ENTER UPPER LIMIT FOR PRECISION"

```



```

3031 INPUT I
3042 O3=I
3045 O7=31
3070 K=0
3080 X0=0
3090 W=0
3100 Z=0
3110 M2=M1
3120 M3=M2
3206 PRINT O2:"HQH OL.04**"
3210 PRINT O2:N,O7,X0,M9,01,00,X0,M8,03,02,W,K,K,K,K
4000 FIND O2:7
4010 PRINT "ENTER OL HISTORY FOR .216"
4020 PRINT "ENTER MEAN (OR STANDARD) FOR .216"
4030 INPUT M1
4040 PRINT "ENTER S.D. (OR STANDARD) FOR .216"
4050 INPUT M2
4061 PRINT "ENTER LOWER LIMIT FOR ACCURACY"
4072 INPUT I
4084 PRINT "ENTER UPPER LIMIT FOR ACCURACY"
4095 INPUT I
4106 O1=I
4117 PRINT "ENTER LOWER LIMIT FOR PRECISION"
4128 INPUT I
4139 O2=I
4150 PRINT "ENTER UPPER LIMIT FOR PRECISION"
4161 INPUT I
4172 O3=I
4185 M2=M1
4197 M3=M2
4208 PRINT O2:"HQH OL.216**"
4210 PRINT O2:N,O7,X0,M9,01,00,X0,M8,03,02,W,K,K,K,K
10000 PRINT O2:2:
10010 CLOSE
10015 PRINT "INSERT PROGRAM TAPE INTO 4052"
10016 IN A*
10020 FT. I
10030 OLD
10040 REM END OF PROGRAM

```

FILE # 7

```

100 INIT
110 PRINT @32.26:0

120 REM
130 REM THIS PROGRAM IS SUPPOSED TO UPDATE THE HISTORY FILE BETWEEN
140 REM EACH DAILY RUN. IT IS SUPPOSED TO LEAVE IN THE INFORMATION
150 REM ABOUT PREVIOUS DAYS SO THAT THE QC PLOTS WILL SHOW DAILY
160 REM PROGRESS. IT IS SUPPOSED TO REMOVE THE INDIVIDUAL PLOT FILES
170 REM SO THAT A "FRESH" HISTORY TAPE EACH DAY.

180 REM
190 REM DATE: 05/04/81
200 REM AUTHOR: COMPUTER SCIENCES CORPORATION
210 REM ISAAC WILLY THAXLER
220 REM NSTL STATION, MS.
230 REM
240 REM
250 REM DO SOME PRELIMINARIES

260 U1=33
270 PAGE
280 PRINT * BEGIN PROGRAM TO UPDATE HISTORY TAPE*
290 PRINT * INSERT HISTORY TAPE INTO INTERNAL TAPE DRIVE*
300 PRINT * MAKE SURE WRITE PROTECT IS NOT ON SAFE*
310 PRINT * PRESS HOME PAGE TO START PROGRAM*
320 PRINT *OKJ*
330 PRINT * BEGIN PROCESSING*

340 REM U1 - DEVICE NUMBER OF INTERNAL TAPE DRIVE
350 REM A1 - LINE 1 OF FILE 1
360 REM B1 - LINE 2 OF FILE 1
370 REM C1 - LINE 3 OF FILE 1
380 REM D1 - LINE 4 OF FILE 1
390 REM E1 - LINE 5 OF FILE 1
400 REM F1 - LINE 6 OF FILE 1
410 REM G1 - LINE 7 OF FILE 1
420 REM I - USED AS A TEMPORARY INDEX VARIABLE
430 REM
440 REM *** SECTION TO UPDATE FILE 1 ***

450 FIND 1
460 INPUT @U1:A1
470 INPUT @U1:B1
480 INPUT @U1:C1
490 INPUT @U1:D1
500 INPUT @U1:E1
510 INPUT @U1:F1
520 INPUT @U1:G1
530 CLOSE
540 FIND 1
550 PRINT @U1:A1
560 PRINT @U1:B1
570 PRINT @U1:C1
580 PRINT @U1:D1
590 PRINT @U1:E1
600 PRINT @U1:F1
610 PRINT @U1:G1
620 CLOSE

```

```

640 REM PUT TAPE AT BEGINNING OF FILE
650 FIND 0

660 REM *** SECTION FOR FILE 2 ***

670 FIND 2
680 PRINT GUL:"SYSTEM***"
690 CLOSE

700 REM *** END OF FILE 2 SECTION ***
710 REM FIND BEGINNING OF TAPE
720 FIND 0

730 REM *** SECTION FOR FILE 3 ***

740 FIND 3
750 PRINT GUL:"PLOTFILES**"
760 CLOSE

770 REM *** END OF SECTION FOR FILE 3 ***
780 REM FIND BEGINNING OF TAPE
790 FIND 0

800 REM *** SECTION FOR FILE 4 ***

810 FIND 4
820 PRINT GUL:"PLOTSOC***"
830 CLOSE
840 PRINT
850 PRINT
860 PRINT
870 PRINT
880 PRINT
890 PRINT
900 PRINT
910 PRINT
920 PRINT
930 PRINT
940 PRINT
950 PRINT
960 FIND 1
970 OLD

980 REM END OF PROGRAM

```

TAPE ACCESSING FINISHED
 YOU MAY REMOVE THE TAPE NOW
 INITIAL STATISTICS PROGRAM TAPE INTO INTERNAL TAPE DRIVE
 PRESS 'HOME PAGE' TO CONTINUE
 CRJ

```

100 DIM X(100),Y(100),F(2)
101 PRINT "INSERT SCRATCH TAPE IN UNIT 11"
102 FIND @1110
103 MARK @1112,50000
110 REM INIT
120 FIND @1111
130 FIND @3312
140 INPUT @3314
150 GOSUB 10000
220 A=A1
230 IO=I1
240 B=B1
250 N=1
260 X(N)=T
270 Y(N)=P0
300 IF IYF(0)<2 THEN 1000
305 INPUT @3314
310 GOSUB 10000
320 IF A<A1 OR IO<I1 OR D<D1 THEN 1000
330 N=N+1
340 X(N)=T
350 Y(N)=F0
360 GO TO 300
1000 M1=0
1010 M2=0
1020 M3=0
1030 M4=0
1040 M5=0
1050 FOR I=1 TO N
1060 M1=M1X(I)
1070 M2=M2Y(I)
1080 M3=M3X(I)*X(I)
1090 M4=M4Y(I)*Y(I)
1100 M5=M5Y(I)*X(I)
1110 NEXT I
1120 F(1)=(M5-M1*M2)/(M4-M1^2)
1130 F(2)=(M2-F(1)*M1)/N
1140 PRINT @1112,IO,A,F(1),F(2)
1150 IF IYF(0)=2 THEN 220
1151 REM PARAMS FOR 519 AND 520
1152 PRINT @111519,2,3,0,0.2956,65.99
1153 PRINT @111519,4,4,-0.0182,65.83
1154 PRINT @111520,3,3,-0.1192,65.22
1155 PRINT @111520,4,4,-0.6725,66.61
1160 FIND 3
1170 OLD

```

```

---2--- 10000 REM GET CALIBRATION DATA
10010 D2=SEG(D1,4,3)
10020 D1=VAL(D4)
10030 I4=SEG(R1,7,1)

```

10040 I1=VAL(I1)
10050 A1=SEG(11,27,1)
10060 A1=VAL(A1)
10070 F1=SEG(11,20,6)
10080 F0=VAL(F1)
10090 Y1=SEG(11,14,6)
10100 Y=VAL(Y1)
10200 RETURN

FILE 9

8103263CALH020.04	1.000	1
8103263CALH020.04	2.500	1
8103263CALH030.17	10.500	1
8103263CALH040.24	15.25001	
8103263CALH050.44	27.500	1
8103263CALH060.61	39.000	1
8103263CALH070.97	52.000	1
8103263CALH081.21	80.000	1
8103263CALH010.015	1.00	1
8103263CALH020.04	2.55	1
8103263CALH030.17	10.00	1
8103263CALH040.24	14.00	1
8103263CALH050.44	26.50	1
8103263CALH060.61	37.00	1
8103263CALH070.97	58.00	1
8103263CALH081.21	78.50	1
8103264CALH011.21	68.00	2
8103264CALH020.97	54.50	2
8103264CALH030.61	33.50	2
8103264CALH040.44	27.00	2
8103264CALH050.24	13.00	2
8103264CALH060.17	08.75	2
8103264CALH070.04	03.00	2
8103264CALH080.015	01.75	2
8103264CALH011.21	68.000	2
8103264CALH020.97	54.750	2
8103264CALH030.61	35.000	2
8103264CALH040.44	27.500	2
8103264CALH050.24	13.500	2
8103264CALH060.17	09.250	2
8103264CALH070.04	03.25	2
8103264CALH080.015	02.500	2
8103264CALH010.015	1.30	3
8103264CALH020.04	2.800	3
8103264CALH030.17	11.00	3
8103264CALH040.24	15.400	3
8103264CALH050.44	27.500	3
8103264CALH060.61	34.500	3
8103264CALH070.97	43.500	3
8103264CALH081.21	80.300	3
8103264CALH010.015	1.200	3
8103264CALH020.04	2.400	3
8103264CALH030.17	10.500	3
8103264CALH040.24	15.50	3
8103264CALH050.44	26.40	3
8103264CALH060.61	37.80	3
8103264CALH070.97	62.50	3
8103264CALH081.21	79.80	3
8103263CALH010.015	1.050	4
8103263CALH020.04	2.000	4
8103263CALH030.17	11.000	4
8103263CALH040.24	14.500	4
8103263CALH050.44	27.500	4
8103263CALH060.61	40.000	4
8103263CALH070.97	64.000	4
8103263CALH081.21	81.000	4
8103263CALH010.015	0.750	4
8103263CALH020.04	2.500	4

8103263CALH030.17	10.00	4
8103263CALH040.24	14.25	4
8103263CALH050.44	26.50	4
8103263CALH060.61	39.00	4
8103263CALH070.97	62.750	4
8103263CALH081.21	81.000	4
8103303CALH010.015	1.000	4
8103303CALH020.04	3.250	4
8103303CALH030.17	11.500	4
8103303CALH040.24	15.250	4
8103303CALH050.44	28.500	4
8103303CALH060.61	40.000	4
8103303CALH070.97	64.000	4
8103303CALH081.21	81.50	4
8103303CALH010.015	0.75	4
8103303CALH020.04	2.75	4
8103303CALH030.17	10.500	4
8103303CALH040.24	13.500	4
8103303CALH050.44	25.000	4
8103303CALH060.61	36.500	4
8103303CALH070.97	61.000	4
8103303CALH081.21	79.250	4
8103304CALH010.015	1.200	3
8103304CALH020.04	2.800	3
8103304CALH030.17	11.500	3
8103304CALH040.24	14.000	3
8103304CALH050.44	28.600	3
8103304CALH060.61	40.500	3
8103304CALH070.97	64.000	3
8103304CALH081.21	82.000	3
8103304CALH010.015	1.200	3
8103304CALH020.04	3.200	3
8103304CALH030.17	10.50	3
8103304CALH040.24	14.50	3
8103304CALH050.44	28.80	3
8103304CALH060.61	39.50	3
8103304CALH070.97	63.00	3
8103304CALH081.21	78.00	3
8103304CALH011.21	77.50	2
8103304CALH020.97	59.50	2
8103304CALH030.61	37.50	2
8103304CALH040.44	26.00	2
8103304CALH050.24	13.25	2
8103304CALH060.17	10.00	2
8103304CALH070.04	03.50	2
8103304CALH080.015	00.50	2
8103304CALH011.21	77.00	2
8103304CALH020.97	63.00	2
8103304CALH030.61	40.00	2
8103304CALH040.44	27.00	2
8103304CALH050.24	16.50	2
8103304CALH060.17	13.50	2
8103304CALH070.04	04.50	2
8103304CALH080.015	03.50	2
8103313CALH010.015	1.000	4
8103313CALH020.24	2.500	4
8103313CALH030.17	13.000	4
8103313CALH040.24	15.500	5
8103313CALH050.44	30.000	4
8103313CALH060.61	40.000	4

U103313CALH070.97 44.000 4
P103313CALH081.21 79.000 4
B103313CALH010.015 1.250 4
B103313CALH070.04 2.500 4
B103313CALH010.17 10.000 4
B103313CALH040.24 15.000 4
B103313CALH050.44 29.000 4
B103313CALH060.61 39.000 4
B103313CALH070.97 43.000 4
B103313CALH081.21 77.500 4
B103313CALH010.015 1.00 1
B103313CALH070.04 2.50 1
B103313CALH030.17 11.00 1
B103313CALH040.24 15.00 1
B103313CALH050.44 30.00 1
B103313CALH060.61 40.00 1
B103313CALH070.97 64.00 1
B103313CALH081.21 79.00 1
B103313CALH010.015 1.00 1
B103313CALH070.04 2.50 1
B103313CALH030.17 10.50 1
B103313CALH040.24 15.00 1
B103313CALH050.44 28.00 1
B103313CALH060.61 39.00 1
B103313CALH070.97 64.00 1
B103313CALH081.21 81.00 1
B103314CALH010.015 1.20 3
B103314CALH070.04 2.700 3
B103314CALH030.17 10.90 3
B103314CALH040.24 15.60 3
B103314CALH050.44 29.90 3
B103314CALH060.61 39.20 3
B103314CALH070.97 63.50 3
B103314CALH081.21 77.80 3
B103314CALH010.015 1.600 3
B103314CALH070.04 3.200 3
B103314CALH030.17 10.200 3
B103314CALH040.24 12.600 3
B103314CALH050.44 27.600 3
B103314CALH060.61 36.000 3
B103314CALH070.97 61.50 3
B103314CALH081.21 75.200 3
B103314CALH011.21 76.00 2
B103314CALH070.97 63.50 2
B103314CALH040.61 38.50 2
B103314CALH050.44 28.00 2
B103314CALH070.24 16.00 2
B103314CALH060.17 11.00 2
B103314CALH070.04 04.00 2
B103314CALH080.015 01.75 2
B103314CALH011.21 75.00 2
B103314CALH070.97 61.25 2
B103314CALH030.61 37.50 2
B103314CALH040.44 26.75 2
B103314CALH050.24 14.50 2
B103314CALH060.17 10.00 2
B103314CALH070.04 03.00 2
B103314CALH080.015 01.00 2
B103314CALH010.015 1.500 4
B104013CALH070.04 3.250 4

8104013CALH030.17	10.500	4
8104013CALH040.24	16.500	4
8104013CALH050.44	30.250	4
8104013CALH060.61	42.500	4
8104013CALH070.97	63.75	4
8104013CALH081.21	81.500	4
8104013CALH010.015	1.250	4
8104013CALH020.04	3.000	4
8104013CALH030.17	10.250	4
8104013CALH040.24	15.000	4
8104013CALH050.44	29.000	4
8104013CALH060.61	40.500	4
8104013CALH070.97	66.000	4
8104013CALH081.21	81.500	4
8104013CALH010.015	1.00	1
8104013CALH020.04	2.50	1
8104013CALH030.17	13.00	1
8104013CALH040.24	18.00	1
8104013CALH050.44	35.00	1
8104013CALH060.61	41.00	1
8104013CALH070.97	63.00	1
8104013CALH081.21	80.00	1
8104013CALH010.015	2.00	1
8104013CALH020.04	3.00	1
8104013CALH030.17	13.00	1
8104013CALH040.24	16.00	1
8104013CALH050.44	32.00	1
8104013CALH060.61	43.00	1
8104013CALH070.97	67.00	1
8104013CALH081.21	86.00	1
8104013CALH010.015	1.200	3
8104013CALH020.04	3.000	3
8104013CALH030.17	12.700	3
8104013CALH040.24	15.500	3
8104013CALH050.44	26.200	3
8104013CALH060.61	38.000	3
8104013CALH070.97	64.000	3
8104013CALH081.21	82.000	3
8104013CALH010.015	1.800	3
8104013CALH020.04	4.000	3
8104013CALH030.17	13.200	3
8104013CALH040.24	16.500	3
8104013CALH050.44	26.000	3
8104013CALH060.61	38.700	3
8104013CALH070.97	67.800	3
8104013CALH081.21	81.200	3
8104013CALH011.21	80.00	2
8104013CALH070.97	61.75	2
8104013CALH030.21	20.25	2
8104013CALH040.44	28.00	2
8104013CALH050.24	18.50	2
8104013CALH060.17	10.50	2
8104013CALH070.04	03.00	2
8104013CALH080.015	01.25	2
8104013CALH011.21	22.50	2
8104013CALH070.97	44.60	2
8104013CALH030.61	41.00	2
8104013CALH040.44	27.50	2
8104013CALH050.24	15.00	2
8104013CALH060.17	13.25	2

8104014CALH070.04	03.50	2
8104014CALH080.015	02.50	2
8104015CALH010.04	2.50	3
8104023CALH020.24	16.00	3
8104023CALH030.61	38.40	3
8104023CALH040.97	65.00	3
8104023CALH051.21	79.50	3
8104023CALH010.04	3.00	3
8104023CALH020.24	16.00	3
8104023CALH030.61	39.20	3
8104023CALH040.97	64.50	3
8104023CALH051.21	80.40	3
8104023CALH011.21	79.00	2
8104023CALH020.97	62.50	2
8104023CALH030.21	38.75	2
8104023CALH040.24	14.50	2
8104023CALH050.04	04.00	2
8104023CALH011.21	78.50	2
8104023CALH020.97	62.25	2
8104023CALH030.61	41.00	2
8104023CALH040.24	14.00	2
8104023CALH050.04	02.50	2
8104024CALH010.04	3.00	1
8104024CALH020.24	16.00	1
8104024CALH030.61	38.50	1
8104024CALH040.97	62.00	1
8104024CALH051.21	78.50	1
8104024CALH010.04	4.50	1
8104024CALH020.24	17.00	1
8104024CALH030.61	42.00	1
8104024CALH040.97	66.50	1
8104024CALH051.21	85.00	1
8104034CALH010.04	3.000	4
8104034CALH020.24	17.250	4
8104034CALH030.61	43.750	4
8104034CALH040.97	69.750	4
8104034CALH051.21	88.500	4
8104034CALH010.04	3.000	4
8104034CALH020.24	17.000	4
8104034CALH030.61	44.000	4
8104034CALH040.97	70.000	4
8104034CALH051.21	88.750	4
8104034CALH010.04	3.000	1
8104034CALH020.24	16.000	1
8104034CALH030.61	31.000	1
8104034CALH040.97	64.50001	1
8104034CALH051.21	79.50001	1
8104044CALH010.04	2.500	1
8104044CALH020.24	15.500	1
8104044CALH030.61	40.000	1
8104044CALH040.97	63.500	1
8104044CALH051.21	80.500	1
8104044CALH010.04	2.70	3
8104044CALH020.24	16.00	3
8104044CALH030.61	41.80	3
8104044CALH040.97	65.50	3
8104044CALH051.21	81.00	3
8104044CALH010.04	2.300	3
8104044CALH020.24	16.000	3
8104044CALH030.61	42.000	3

8104063CALH040.97	66.000	3
8104063CALH051.21	81.500	3
8104063CALH011.21	81.50	2
8104063CALH020.97	64.50	2
8104063CALH030.61	40.50	2
8104063CALH040.24	15.50	2
8104063CALH050.04	03.00	2
8104063CALH011.21	82.50	2
8104063CALH020.97	66.00	2
8104063CALH030.61	41.00	2
8104063CALH040.24	17.00	2
8104063CALH050.04	04.00	2
8104084CALH010.04	2.750	4
8104084CALH020.24	15.000	4
8104084CALH030.61	40.000	4
8104084CALH040.97	63.500	4
8104084CALH051.21	80.000	4
8104084CALH010.04	03.000	4
8104084CALH020.24	15.500	4
8104084CALH030.61	41.000	4
8104084CALH040.97	66.000	4
8104084CALH051.21	80.000	4
8104084CALH010.04	3.000	1
8104084CALH020.24	15.250	1
8104084CALH030.61	40.250	1
8104084CALH040.97	65.250	1
8104084CALH051.21	81.000	1
8104084CALH010.04	2.500	1
8104084CALH020.24	15.000	1
8104084CALH030.61	40.000	1
8104084CALH040.97	64.000	1
8104084CALH051.21	79.500	1
8104084CALH010.04	3.000	3
8104084CALH020.24	16.000	3
8104084CALH030.61	40.500	3
8104084CALH040.97	64.300	3
8104084CALH051.21	80.800	3
8104084CALH010.04	2.800	3
8104084CALH020.24	16.800	3
8104084CALH030.61	41.500	3
8104084CALH040.97	65.000	3
8104084CALH051.21	83.500	3
8104084CALH011.21	82.00	2
8104084CALH020.97	66.00	2
8104084CALH030.61	42.25	2
8104084CALH040.24	16.00	2
8104084CALH050.04	03.00	2
8104084CALH011.21	83.00	2
8104084CALH020.97	66.00	2
8104084CALH030.61	41.25	2
8104084CALH040.24	16.00	2
8104084CALH050.04	03.25	2
8104094CALH010.04	2.500	4
8104094CALH020.24	15.000	4
8104094CALH030.61	39.000	4
8104094CALH040.97	62.500	4
8104094CALH051.21	76.500	4
8104094CALH010.04	3.000	4
8104094CALH020.24	15.500	4
8104094CALH030.61	40.000	4

8104094CALH040.97	64.000	4
8104094CALH051.21	79.500	4
8104094CALH010.04	2.50	1
8104094CALH020.24	16.500	1
8104094CALH030.61	39.500	1
8104094CALH040.97	64.000	1
8104094CALH051.21	79.500	1
8104094CALH010.04	4.500	1
8104094CALH020.24	15.000	1
8104094CALH030.61	42.500	1
8104094CALH040.97	64.00	1
8104094CALH051.21	80.000	1
8104094CALH010.04	2.800	3
8104094CALH020.24	15.500	3
8104094CALH030.61	40.500	3
8104094CALH040.97	65.500	3
8104094CALH051.21	83.500	3
8104094CALH010.04	2.400	3
8104094CALH020.24	15.000	3
8104094CALH030.61	40.500	3
8104094CALH040.97	66.000	3
8104094CALH051.21	83.500	3
8104094CALH011.21	80.75	2
8104094CALH020.97	64.75	2
8104094CALH030.61	40.50	2
8104094CALH040.24	15.25	2
8104094CALH050.04	02.50	2
8104094CALH011.21	83.00	2
8104094CALH020.97	69.00	2
8104094CALH030.61	40.25	2
8104094CALH040.24	15.75	2
8104094CALH050.04	02.75	2
8104104CALH010.04	3.00	3
8104104CALH020.24	14.000	3
8104104CALH030.61	39.200	3
8104104CALH040.97	63.500	3
8104104CALH051.21	80.000	3
8104104CALH010.04	2.800	3
8104104CALH020.24	15.200	3
8104104CALH030.61	39.000	3
8104104CALH040.97	63.500	3
8104104CALH051.21	80.000	3
8104103CALH011.21	83.50	2
8104103CALH020.97	67.25	2
8104103CALH030.61	41.00	2
8104103CALH040.24	16.00	2
8104103CALH050.04	02.25	2
8104103CALH011.21	84.00	2
81 7		
NEU		

THE FOLLOWING LINE NUMBERS ARE BRANCHED TO BUT DO NOT EXIST IN THIS TAPE FILE (# 9)
A " - " BEFORE THE LINE NUMBER INDICATES IT IS BRANCHED TO AS A SUBROUTINE (VIA A "GOSUB" OR "ON")

FILE # 1

```

+++1111 100 INIT
110 U3=32
120 PRINT Q03,25:0
130 PAGE
140 PRINT "JJ"
150 GOTO 170
160 PRINT "JJOPTION"
170 PRINT "JJOPTION"
180 PRINT "JJOPTION"
190 PRINT "JJOPTION"
200 PRINT "JJOPTION"
210 PRINT "JJOPTION"
220 PRINT "JJOPTION"
230 PRINT "JJOPTION"
240 PRINT "JJOPTION"
250 IF A1=0 THEN 240
260 A=VAL(A$)
270 IF A1 OR A2 THEN 100
280 GOTO 300
290 GO TO A OF 300,400,500,600
+++1111 300 FIND 0
310 FIND 6
320 OLD
+++1111 400 FIND 0
410 FIND 7
420 OLD
+++1111 500 FIND 0
510 FIND 5
520 OLD
+++1111 600 FIND 0

```

STATISTICS PROGRAM DIRECTORY

1 CREATE A NEW HISTORY TAPE
 2 REFRESH HISTORY TAPE
 3 RUN STATISTICS PROGRAMS
 4 STOP

WHICH OPTION> (1,2,3,4)

FILE # 2

```

100 INIT
110 REM MAKE SURE SCREEN DOES NOT AUTOMATICALLY PAGE WHEN FULL
120 PRINT #12,24:0
130 REM ASSIGN DEVICE NUMBERS;FIND FILE 2 OF HISTORY TAPE;SKIP RECORD
140 U1=33
150 U2=11
160 FIND #U2:10
170 FIND #U2:12
180 INPUT #U2:U1;U4
190 DIM Z4(20),C$(20),C$(2),F$(10),E$(72),Y$(127),R$(127)
200 DIM M$(6),Y$(30),X$(30),R$(2),A$(6),N$(1),S$(1),N$(7)
210 R4=.
220 DIM X1(32),Y1(32),X2(32),Y2(32),N2(32),G6(32),N0(8),P(34),B7(32)
230 DIM S(8),M6(8),M7(5),MB(8),M9(8),F0(34)
240 DIM T7(40)
250 DATA 12.706,4.363,3.182,2.776,2.579,2.451,2.366,2.307,2.262,2.228
260 DATA 2.201,2.179,2.16,2.145,2.131,2.12,2.11,2.101,2.093,2.086,2.08
270 DATA 2.074,2.069,2.064,2.06,2.056,2.052,2.049,2.046,2.043,2.04
280 DATA 2.037,2.035,2.033,2.03,2.028,2.027,2.025,2.023,2.022
290 READ T7
300 E4=.
310 FOR I=1 TO 71
320 F4=E43.
330 NEXT I
340 REM#
350 REM#INITIALIZE PLOTFILES
360 REM#
370 F4="PLOTFILES"
380 REM CHECK HISTORY TAPE HEADER AND GET N9
390 GOSUB 40000
400 FIND #U2:N9
410 PRINT #U2:F4
420 PRINT #U2:2;
430 REM# INITIALIZE PLOT FILES
440 F4="PLOT50C"
450 GOSUB 40000
460 FIND #U2:N9
470 PRINT #U2:F4
480 PRINT #U2:2;
490 PRINT "*****"
500 PRINT "*****"
510 PRINT "*****"
520 INPUT Z4
530 INPUT Z4
540 INPUT Z4
550 IF A=1 THEN 500
560 INPUT #U1:Y4
570 IF LEN(Z4)<13 THEN 610

```

```

500 DTH Z4(13),Y4(13)
590 IF Y4-Z4 THEN 240
600 PRINT "LABEL ON TAPE IS :Y4"
610 PRINT "WRONG RNA TAPE OR WRONG LABEL"
620 PAGE
630 GO TO 500
640 INPUT "QUIZ:"
650 M3=SG(104,10,2)
660 PRINT "DATA IS BEING PROCESSED"
670 GOSUB 1000
675 PRINT "OKJ"
680 PRINT "GGGGGGGG"
690 PRINT "INSERT PROGRAM TAPE IN 4051"
700 PRINT "OKJ"
710 PRINT "QUIZ"
720 GO TO 500

```

```

1010 REM M$ IS USED TO HOLD NAME OF AGENT.
1020 M$="DB".
1030 PRINT "THIS PROGRAM PROCESSES AGENT "M$". ONLY".
1040 PRINT "ENTER SERIAL NUMBER (N)".
1050 INPUT N$.
1060 PRINT "ENTER THE ANALYST'S INITIALS (SS)".
1070 INPUT V$.

```

```

1074 00=2
1075 GO TO 1152
1080 PRINT " TRANSFORM OPTIONS FOR CALIBRATION."
1090 PRINT " 1 X = LOG(X)."
1100 PRINT " 2 Y = LOG(Y)."
1110 PRINT " 3 NO TRANSFORM."
1120 PRINT "J ENTER OPTION (1,2,3)."
1130 INPUT 00
1140 IF 00<1 OR 00>3 THEN 1000

```

++111++	1152 F-0
	1154 P(3)-00
	1156 GO TO 00 OF 1156,1158,1170
++111++	1156 P(3)=1
	1157 GO TO 170
++111++	1158 P(31)=103

1:107 0711 4412144
1:107 0711 4412144
1:107 0711 4412144

1,000 11-0


```

1113111 1220 A=IYF(0)
1230 IF A=2 THEN 1370
1240 INPUT Q(1:84)
1250 GOSUB 5000
1260 IF A=1 THEN 1220
1270 I=84
1280 X4=SCG(B4,27.7)
1290 C4=LOG(X4,1.2)
1300 IF C4=NA THEN 1220
1310 M=114
1310 REM Load calibration data into X2 and Y2
1320 X2(0)=VAL(X4)
1330 X4=SL6(B4,40.7)
1340 Y2(0)=VAL(X4)
1350 GO TO 1220
1350 REM now load transformed data into X1,Y1
1370 B4=13
1380 GO TO 09 OF 1400,1500,1600
1390 REM X=ln(X) transform
1400 FOR I=1 TO M
1410 Y1(I)=Y2(I)+P(31)
1420 X1(I)=LOG(X2(I)+P(32))
1430 NEXT I
1440 GO TO 1620
1470 REM Y=ln(Y)
1500 FOR I=1 TO M
1510 X1(I)=X2(I)+P(32)
1520 Y1(I)=LOG(X2(I)+P(31))
1530 NEXT I
1540 GO TO 1620
1570 REM no transformation
1600 FOR I=1 TO M
1610 X1(I)=X2(I)+P(32)
1620 Y1(I)=Y2(I)+P(31)
1630 NEXT I
1640 REM end of load routine
1650 REM Process Calibration Data
1670 IF NOT "Processing Calibration Data for *IMS
1680 THEN GOTO 1670
1690 GOTO 1670
1700 GOTO 1670
1710 GOTO 1670
1720 GOTO 1670
1730 GOTO 1670
1740 GOTO 1670
1750 GOTO 1670
1760 GOTO 1670
1770 GOTO 1670
1780 GOTO 1670
1790 GOTO 1670
1800 GOTO 1670

```

1730 M5=0
 1790 F(8)=M
 1800 FOR I=1 TO M
 1810 M1=MAX1(I)
 1820 M2=MIN1(I)
 1830 M3=MAX1(I)*X1(I)
 1840 M4=MIN1(I)*Y1(I)
 1850 M5=MAX1(I)*Y1(I)
 1860 NEXT I
 1870 C=P(8)*M3-M1
 1880 P(10)=P(8)/C
 1890 F(11)=M1/C
 1900 F(12)=M3/C
 1910 P(2)=(P(8)*M5-M1*M2)/(P(8)*M3-M1)
 1920 P(1)=(M2-F(12)*M1)/P(8)
 1930 F(4)=P(1)
 1940 F(5)=P(2)
 1950 P=0
 1960 FOR I=1 TO P(8)
 1970 P=P+(Y1(I)-P(1)-P(2)*X1(I))^2
 1980 NEXT I
 1990 P(23)=1-B/(M4-M2*M2/P(8))
 2010 F(6)=B/(P(8)-2)
 2020 F(9)=1
 2030 P(29)=1
 2040 F(27)=P(6)
 2050 LIST Calibration of Instrument Response *BVS
 2060 L3-L5
 2070 L6-L10
 2080 DIM Y(30)
 2090 Y2="CONCENTRATION"
 2100 Y3="INSTRUMENT RESPONSE"
 2110 M5=MAX1(Y3,14,2)
 2120 M3=MAX1(Y3,12,2)
 2140 M4=MAX1(Y3)
 2150 M2=MAX1(Y3)
 2160 M1=MAX1(Y3,16,2)
 2170 M5=M4
 2180 GOSUB 5100
 2190 P=1
 2192 M5 GET PARAMETER FOR Y V3 F
 2194 F4="HR*MS"
 2195 GOTO 6000
 2198 L8=L1 20214.4 P
 2204 F(11)=0
 2206 F(12)=0
 2208 F(13)=3
 2210 REM Process DL 8 OF d30
 2210 REM 1/5/68 14000
 2215 25 "DL"
 2216 12-1
 2217 12-1
 2218 12-1
 2219 12-1
 2220 12-1
 2221 12-1
 2222 12-1
 2223 12-1
 2224 12-1
 2225 12-1
 2226 12-1
 2227 12-1
 2228 12-1
 2229 12-1
 2230 12-1
 2231 12-1
 2232 12-1
 2233 12-1
 2234 12-1
 2235 12-1
 2236 12-1
 2237 12-1
 2238 12-1
 2239 12-1
 2240 12-1
 2241 12-1
 2242 12-1
 2243 12-1
 2244 12-1
 2245 12-1
 2246 12-1
 2247 12-1
 2248 12-1
 2249 12-1
 2250 12-1
 2251 12-1
 2252 12-1
 2253 12-1
 2254 12-1
 2255 12-1
 2256 12-1
 2257 12-1
 2258 12-1
 2259 12-1
 2260 12-1
 2261 12-1
 2262 12-1
 2263 12-1
 2264 12-1
 2265 12-1
 2266 12-1
 2267 12-1
 2268 12-1
 2269 12-1
 2270 12-1
 2271 12-1
 2272 12-1
 2273 12-1
 2274 12-1
 2275 12-1
 2276 12-1
 2277 12-1
 2278 12-1
 2279 12-1
 2280 12-1
 2281 12-1
 2282 12-1
 2283 12-1
 2284 12-1
 2285 12-1
 2286 12-1
 2287 12-1
 2288 12-1
 2289 12-1
 2290 12-1
 2291 12-1
 2292 12-1
 2293 12-1
 2294 12-1
 2295 12-1
 2296 12-1
 2297 12-1
 2298 12-1
 2299 12-1
 2300 12-1
 2301 12-1
 2302 12-1
 2303 12-1
 2304 12-1
 2305 12-1
 2306 12-1
 2307 12-1
 2308 12-1
 2309 12-1
 2310 12-1
 2311 12-1
 2312 12-1
 2313 12-1
 2314 12-1
 2315 12-1
 2316 12-1
 2317 12-1
 2318 12-1
 2319 12-1
 2320 12-1
 2321 12-1
 2322 12-1
 2323 12-1
 2324 12-1
 2325 12-1
 2326 12-1
 2327 12-1
 2328 12-1
 2329 12-1
 2330 12-1
 2331 12-1
 2332 12-1
 2333 12-1
 2334 12-1
 2335 12-1
 2336 12-1
 2337 12-1
 2338 12-1
 2339 12-1
 2340 12-1
 2341 12-1
 2342 12-1
 2343 12-1
 2344 12-1
 2345 12-1
 2346 12-1
 2347 12-1
 2348 12-1
 2349 12-1
 2350 12-1
 2351 12-1
 2352 12-1
 2353 12-1
 2354 12-1
 2355 12-1
 2356 12-1
 2357 12-1
 2358 12-1
 2359 12-1
 2360 12-1
 2361 12-1
 2362 12-1
 2363 12-1
 2364 12-1
 2365 12-1
 2366 12-1
 2367 12-1
 2368 12-1
 2369 12-1
 2370 12-1
 2371 12-1
 2372 12-1
 2373 12-1
 2374 12-1
 2375 12-1
 2376 12-1
 2377 12-1
 2378 12-1
 2379 12-1
 2380 12-1
 2381 12-1
 2382 12-1
 2383 12-1
 2384 12-1
 2385 12-1
 2386 12-1
 2387 12-1
 2388 12-1
 2389 12-1
 2390 12-1
 2391 12-1
 2392 12-1
 2393 12-1
 2394 12-1
 2395 12-1
 2396 12-1
 2397 12-1
 2398 12-1
 2399 12-1
 2400 12-1
 2401 12-1
 2402 12-1
 2403 12-1
 2404 12-1
 2405 12-1
 2406 12-1
 2407 12-1
 2408 12-1
 2409 12-1
 2410 12-1
 2411 12-1
 2412 12-1
 2413 12-1
 2414 12-1
 2415 12-1
 2416 12-1
 2417 12-1
 2418 12-1
 2419 12-1
 2420 12-1
 2421 12-1
 2422 12-1
 2423 12-1
 2424 12-1
 2425 12-1
 2426 12-1
 2427 12-1
 2428 12-1
 2429 12-1
 2430 12-1
 2431 12-1
 2432 12-1
 2433 12-1
 2434 12-1
 2435 12-1
 2436 12-1
 2437 12-1
 2438 12-1
 2439 12-1
 2440 12-1
 2441 12-1
 2442 12-1
 2443 12-1
 2444 12-1
 2445 12-1
 2446 12-1
 2447 12-1
 2448 12-1
 2449 12-1
 2450 12-1
 2451 12-1
 2452 12-1
 2453 12-1
 2454 12-1
 2455 12-1
 2456 12-1
 2457 12-1
 2458 12-1
 2459 12-1
 2460 12-1
 2461 12-1
 2462 12-1
 2463 12-1
 2464 12-1
 2465 12-1
 2466 12-1
 2467 12-1
 2468 12-1
 2469 12-1
 2470 12-1
 2471 12-1
 2472 12-1
 2473 12-1
 2474 12-1
 2475 12-1
 2476 12-1
 2477 12-1
 2478 12-1
 2479 12-1
 2480 12-1
 2481 12-1
 2482 12-1
 2483 12-1
 2484 12-1
 2485 12-1
 2486 12-1
 2487 12-1
 2488 12-1
 2489 12-1
 2490 12-1
 2491 12-1
 2492 12-1
 2493 12-1
 2494 12-1
 2495 12-1
 2496 12-1
 2497 12-1
 2498 12-1
 2499 12-1
 2500 12-1
 2501 12-1
 2502 12-1
 2503 12-1
 2504 12-1
 2505 12-1
 2506 12-1
 2507 12-1
 2508 12-1
 2509 12-1
 2510 12-1
 2511 12-1
 2512 12-1
 2513 12-1
 2514 12-1
 2515 12-1
 2516 12-1
 2517 12-1
 2518 12-1
 2519 12-1
 2520 12-1
 2521 12-1
 2522 12-1
 2523 12-1
 2524 12-1
 2525 12-1
 2526 12-1
 2527 12-1
 2528 12-1
 2529 12-1
 2530 12-1
 2531 12-1
 2532 12-1
 2533 12-1
 2534 12-1
 2535 12-1
 2536 12-1
 2537 12-1
 2538 12-1
 2539 12-1
 2540 12-1
 2541 12-1
 2542 12-1
 2543 12-1
 2544 12-1
 2545 12-1
 2546 12-1
 2547 12-1
 2548 12-1
 2549 12-1
 2550 12-1
 2551 12-1
 2552 12-1
 2553 12-1
 2554 12-1
 2555 12-1
 2556 12-1
 2557 12-1
 2558 12-1
 2559 12-1
 2560 12-1
 2561 12-1
 2562 12-1
 2563 12-1
 2564 12-1
 2565 12-1
 2566 12-1
 2567 12-1
 2568 12-1
 2569 12-1
 2570 12-1
 2571 12-1
 2572 12-1
 2573 12-1
 2574 12-1
 2575 12-1
 2576 12-1
 2577 12-1
 2578 12-1
 2579 12-1
 2580 12-1
 2581 12-1
 2582 12-1
 2583 12-1
 2584 12-1
 2585 12-1
 2586 12-1
 2587 12-1
 2588 12-1
 2589 12-1
 2590 12-1
 2591 12-1
 2592 12-1
 2593 12-1
 2594 12-1
 2595 12-1
 2596 12-1
 2597 12-1
 2598 12-1
 2599 12-1
 2600 12-1
 2601 12-1
 2602 12-1
 2603 12-1
 2604 12-1
 2605 12-1
 2606 12-1
 2607 12-1
 2608 12-1
 2609 12-1
 2610 12-1
 2611 12-1
 2612 12-1
 2613 12-1
 2614 12-1
 2615 12-1
 2616 12-1
 2617 12-1
 2618 12-1
 2619 12-1
 2620 12-1
 2621 12-1
 2622 12-1
 2623 12-1
 2624 12-1
 2625 12-1
 2626 12-1
 2627 12-1
 2628 12-1
 2629 12-1
 2630 12-1
 2631 12-1
 2632 12-1
 2633 12-1
 2634 12-1
 2635 12-1
 2636 12-1
 2637 12-1
 2638 12-1
 2639 12-1
 2640 12-1
 2641 12-1
 2642 12-1
 2643 12-1
 2644 12-1
 2645 12-1
 2646 12-1
 2647 12-1
 2648 12-1
 2649 12-1
 2650 12-1
 2651 12-1
 2652 12-1
 2653 12-1
 2654 12-1
 2655 12-1
 2656 12-1
 2657 12-1
 2658 12-1
 2659 12-1
 2660 12-1
 2661 12-1
 2662 12-1
 2663 12-1
 2664 12-1
 2665 12-1
 2666 12-1
 2667 12-1
 2668 12-1
 2669 12-1
 2670 12-1
 2671 12-1
 2672 12-1
 2673 12-1
 2674 12-1
 2675 12-1
 2676 12-1
 2677 12-1
 2678 12-1
 2679 12-1
 2680 12-1
 2681 12-1
 2682 12-1
 2683 12-1
 2684 12-1
 2685 12-1
 2686 12-1
 2687 12-1
 2688 12-1
 2689 12-1
 2690 12-1
 2691 12-1
 2692 12-1
 2693 12-1
 2694 12-1
 2695 12-1
 2696 12-1
 2697 12-1
 2698 12-1
 2699 12-1
 2700 12-1
 2701 12-1
 2702 12-1
 2703 12-1
 2704 12-1
 2705 12-1
 2706 12-1
 2707 12-1
 2708 12-1
 2709 12-1
 2710 12-1
 2711 12-1
 2712 12-1
 2713 12-1
 2714 12-1
 2715 12-1
 2716 12-1
 2717 12-1
 2718 12-1
 2719 12-1
 2720 12-1
 2721 12-1
 2722 12-1
 2723 12-1
 2724 12-1
 2725 12-1
 2726 12-1
 2727 12-1
 2728 12-1
 2729 12-1
 2730 12-1
 2731 12-1
 2732 12-1
 2733 12-1
 2734 12-1
 2735 12-1
 2736 12-1
 2737 12-1
 2738 12-1
 2739 12-1
 2740 12-1
 2741 12-1
 2742 12-1
 2743 12-1
 2744 12-1
 2745 12-1
 2746 12-1
 2747 12-1
 2748 12-1
 2749 12-1
 2750 12-1
 2751 12-1
 2752 12-1
 2753 12-1
 2754 12-1
 2755 12-1
 2756 12-1
 2757 12-1
 2758 12-1
 2759 12-1
 2760 12-1
 2761 12-1
 2762 12-1
 2763 12-1
 2764 12-1
 2765 12-1
 2766 12-1
 2767 12-1
 2768 12-1
 2769 12-1
 2770 12-1
 2771 12-1
 2772 12-1
 2773 12-1
 2774 12-1
 2775 12-1
 2776 12-1
 2777 12-1
 2778 12-1
 2779 12-1
 2780 12-1
 2781 12-1
 2782 12-1
 2783 12-1
 2784 12-1
 2785 12-1
 2786 12-1
 2787 12-1
 2788 12-1
 2789 12-1
 2790 12-1
 2791 12-1
 2792 12-1
 2793 12-1
 2794 12-1
 2795 12-1
 2796 12-1
 2797 12-1
 2798 12-1
 2799 12-1
 2800 12-1
 2801 12-1
 2802 12-1
 2803 12-1
 2804 12-1
 2805 12-1
 2806 12-1
 2807 12-1
 2808 12-1
 2809 12-1
 2810 12-1
 2811 12-1
 2812 12-1
 2813 12-1
 2814 12-1
 2815 12-1
 2816 12-1
 2817 12-1
 2818 12-1
 2819 12-1
 2820 12-1
 2821 12-1
 2822 12-1
 2823 12-1
 2824 12-1
 2825 12-1
 2826 12-1
 2827 12-1
 2828 12-1
 2829 12-1
 2830 12-1
 2831 12-1
 2832 12-1
 2833 12-1
 2834 12-1
 2835 12-1
 2836 12-1
 2837 12-1
 2838 12-1
 2839 12-1
 2840 12-1
 2841 12-1
 2842 12-1
 2843 12-1
 2844 12-1
 2845 12-1
 2846 12-1
 2847 12-1
 2848 12-1
 2849 12-1
 2850 12-1
 2851 12-1
 2852 12-1
 2853 12-1
 2854 12-1
 2855 12-1
 2856 12-1
 2857 12-1
 2858 12-1
 2859 12-1
 2860 12-1
 2861 12-1
 2862 12-1
 2863 12-1
 2864 12-1
 2865 12-1
 2866 12-1
 2867 12-1
 2868 12-1
 2869 12-1
 2870 12-1
 2871 12-1
 2872 12-1
 2873 12-1
 2874 12-1
 2875 12-1
 2876 12-1
 2877 12-1
 2878 12-1
 2879 12-1
 2880 12-1
 2881 12-1
 2882 12-1
 2883 12-1
 2884 12-1
 2885 12-1
 2886 12-1
 2887 12-1
 2888 12-1
 2889 12-1
 2890 12-1
 2891 12-1
 2892 12-1
 2893 12-1
 2894 12-1
 2895 12-1
 2896 12-1
 2897 12-1
 2898 12-1
 2899 12-1
 2900 12-1
 2901 12-1
 2902 12-1
 2903 12-1
 2904 12-1
 2905 12-1
 2906 12-1
 2907 12-1
 2908 12-1
 2909 12-1
 2910 12-1
 2911 12-1
 2912 12-1
 2913 12-1
 2914 12-1
 2915 12-1
 2916 12-1
 2917 12-1
 2918 12-1
 2919 12-1
 2920 12-1
 2921 12-1
 2922 12-1
 2923 12-1
 2924 12-1
 2925 12-1
 2926 12-1
 2927 12-1
 2928 12-1
 2929 12-1
 2930 12-1
 2931 12-1
 2932 12-1
 2933 12-1
 2934 12-1
 2935 12-1
 2936 12-1
 2937 12-1
 2938 12-1
 2939 12-1
 2940 12-1
 2941 12-1
 2942 12-1
 2943 12-1
 2944 12-1
 2945 12-1
 2946 12-1
 2947 12-1
 2948 12-1
 2949 12-1
 2950 12-1
 2951 12-1
 2952 12-1
 2953 12-1
 2954 12-1
 2955 12-1
 2956 12-1
 2957 12-1
 2958 12-1
 2959 12-1
 2960 12-1
 2961 12-1
 2962 12-1
 2963 12-1
 2964 12-1
 2965 12-1
 2966 12-1
 2967 12-1
 2968 12-1
 2969 12-1
 2970 12-1
 2971 12-1
 2972 12-1
 2973 12-1
 2974 12-1
 2975 12-1
 2976 12-1
 2977 12-1
 2978 12-1
 2979 12-1
 2980 12-1
 2981 12-1
 2982 12-1
 2983 12-1
 2984 12-1
 2985 12-1
 2986 12-1
 2987 12-1
 2988 12-1
 2989 12-1
 2990 12-1
 2991 12-1
 2992 12-1
 2993 12-1
 2994 12-1
 2995 12-1
 2996 12-1
 2997 12-1
 2998 12-1
 2999 12-1
 3000 12-1

```

2280 04=OP*
2285 07=0.9
2290 00508 7000
2300 00508 3500
2310 00508 3750

2320 REM Input Actual Data
2330 M=0
2340 FINE OUT11
2350 INPUT OUT118
2360 A=TYPE(0)
2370 IF A=2 THEN 2460
2380 INPUT OUT118
2390 00508 5000
2400 IF A=1 THEN 2350
2410 15-15
2420 IF A=2 THEN 2360
2430 15-15
2440 00508 10000
2450 GO TO 2360
2460 15-15
2470 RETURN

```

2999 REM Determine Groups

```

---2---
3000 K=0
3010 N2=0
3020 FOR J1=1 TO N
3030 IF N2(J1)=0 THEN 3180
3040 NEXT J1
3050 N2=0
3060 FOR J=1 TO N
3070 IF N2(J)=1 THEN 3090
3080 N2=N2+1
3090 NEXT J

3100 REM Determine number in each group
3110 N3=0
3120 IF N=0 THEN 3170
3130 FOR J=1 TO N
3140 IF N2(J)=1 THEN 3160
3150 N3=N3+1
3160 NEXT J
3170 RETURN
3180 IF J1=1 THEN 3210
3190 N2(N2)=1
3200 GO TO 3050
3210 N3=N3+1
3220 N2(J1)=N
3230 J1=1
3240 15-15(J1)
3250 15-15(J1)
3260 FOR J=1 TO N
3270 IF N2(J)=0 OR N2(J)=1 THEN 3410

```

```

3290 J2=1+J2
3300 J3=J3+Y1(J)
3400 J4=J4+Y1(J)*Y1(J)
3410 NEXT J
3420 J5=J4-J3+J3/J2
3430 IF J2>1 AND J5<0 THEN 3020
3440 FOR J=1 TO N
3450 IF N2(J)<0 THEN 3470
3460 N2(J)=1
3470 NEXT J
3480 N=N-1
3490 GO TO 3020

3498 REM OC
3499 REM X1(N2(I)) P(25)*P(26)

```

```

3500 S1=0
3510 S2=0
3520 J=0
3530 IF N>0 THEN 3580
3540 P(25)=0
3550 P(26)=0
3560 P(20)=0
3570 GO TO 3660
3580 FOR I=1 TO N
3590 J=1+J

```

3593 REM ADJUSTMENT FOR CALCULATED RECOVERY

```

3595 X1(I)=X1(I)/O7
3600 S1=S1+X1(I)
3610 S2=S2+X1(I)*X1(I)
3620 NEXT I
3630 P(25)=S1/J
3640 P(26)=J
3645 O6=52/J-P(25)*P(25)
3646 IF O6<1.0E-6 THEN 3650
3646 P(25)=0
3646 RETURN
3650 P(26)=S06(O6/J-P(25)*P(25))
3660 RETURN

```

3749 REM update FLOISOC

```

3750 F1=FLOISOC
3760 GOSUB 20000
3770 INPUT P02:G1A
3780 IF A=2 THEN 3010
3790 INPUT P02:G1
3800 GO TO 3770
3810 P1=HSG1
3820 P1=P1*1.69
3830 PRINT P02:G1
3840 PRINT P02:G1
3850 PRINT P02:G1
3860 PRINT P02:G1
3870 PRINT P02:G1
3880 PRINT P02:G1*P(25)*P(26)*P(28)

```

3090 PRINT #U2,2;

3900 RETURN

4999 REM check for acceptable record

5000 N=1

5010 X\$=SEG\$(1,6,1)

5020 REM see if it is data or comment record

5030 IF X\$<>'1' AND X\$<>'3' THEN 5130

5040 X\$=SEG\$(1,18,2)

5050 REM check event code

5060 IF X\$<>'H' THEN 5130

5070 X\$=SEG\$(1,20,1)

5080 REM check serial number

5090 IF X\$<>'H' THEN 5130

5100 X\$=SEG\$(1,87,3)

5110 REM check analyst's initials

5120 IF X\$=0\$ THEN 5140

5130 A=0

5140 RETURN

5999 REM GROUP MOVEMENTS

6000 N7=0

6010 M6=0

6020 M7=0

6030 M8=0

6040 M9=0

6050 FOR I=1 TO N

6060 IF N2(I)<1 THEN 6130

6070 N7=N7+1

6080 M6(N2(I))=M6(N2(I))+X1(I)

6090 M7(N2(I))=M7(N2(I))+Y1(I)

6100 M8(N2(I))=M8(N2(I))+X1(I)*X1(I)

6110 M9(N2(I))=M9(N2(I))+Y1(I)*Y1(I)

6120 NEXT I

6130 RETURN

6999 REM Get data for OL : OP

7000 N=0

7010 FIND #U1:0

7020 FIND #U1:1

7030 INPUT #U1:0\$

7040 A=TYPE(0)

```

7060 INPUT W1:R$
7070 GOSUB 5000
7080 IF A=1 THEN 7040
7090 W$=SEG(W1:R$,118,2)
7100 REM*** IF Q$= " " AND (W$="QP" OR W$="QL") THEN 7130
7110 IF W$>Q$ THEN 7040
7120 REMcheck for control concentration
7130 Y$=SEG(B$,97,7)
7140 IF C=0 THEN 7160
7150 IF VAL(Y$)<C THEN 7040
+++1+++ 7160 Y$=SEG(B$,48,7)
7170 Y=VAL(Y$)
7175 REM Calibrate QC Data
7180 GO TO 00 OF 7260,7190,7290
+++1+++ 7190 Y=L00(-Y/P0(31))
7230 X=(Y-P0(1))/P0(2)-P0(32)
7240 GO TO 7310
7250 REM case 2 X=ln(X)
+++1+++ 7260 X=EXP((Y-P0(1)+P0(31))/P0(2))-P0(32)
7270 GO TO 7310
7280 REM case 3 no transform
+++1+++ 7290 X=(Y-P0(1))/P0(2)-P0(31)
7300 REM end of case statement based on transformation
1:12+++ 7310 W$=SEG(R$,62,7)
7315 IF W$="HA" THEN 7040
7320 X=X*VAL(W$)
7330 Y$=SEG(B$,97,7)
7340 Y=VAL(Y$)
7350 N=1+Y
7360 X1(N)=X
7370 X2(N)=X
7380 Y1(N)=Y
7390 Y2(N)=Y
7400 GO TO 7040
+++1+++ 7410 RETURN
9998 REM set actual data from B$
9999 REM Peak Heights
-----1----- 10000 Y$=SEG(B$,48,7)
10010 Y0=VAL(Y$)
10020 GO TO 00 OF 10120,10040,10150
10030 REM case 1 Y=ln(Y)
+++1+++ 10040 Y0=LOG(-Y0/P0(31))

```

```

10090 X0=(Y0-P0(1))/P0(2)-P0(32)
10100 GO TO 10170
10110 REM case 2      X=ln(X)
++++
10120 X0=EXP((Y0+P0(31)-P0(1))/P0(2))-P0(32)
10130 GO TO 10170
10140 REM case 3      no transform
++++
10150 X0=(Y0+P0(31)-P0(1))/P0(2)-P0(32)
10160 REM end of case statement on 00
++++
10170 Y0=X0
10172 X0=(X0-P(1))/P(2)
10175 X0=X0/0.9
10180 GOSUB 15000
10185 REM GET DILUTION
10190 X1=SEG(B1,62,7)
10200 Q0=VAL(X1)
10205 REM GET RUBBLER VOLUME
10210 X1=SEG(B1,69,7)
10220 Q0=Q0*VAL(X1)
10230 REM Get Time
10240 X1=SEG(B1,126,2)
10250 Y1=SEG(B1,122,2)
10260 X1=VAL(X1)
10270 Y1=VAL(Y1)
10280 Z=X-Y
10290 X1=SEG(B1,124,2)
10300 Y1=SEG(B1,120,2)
10310 X1=VAL(X1)
10320 Y1=VAL(Y1)
10330 IF X1>Y1 THEN 10330
10325 X=X124
10330 Z=(X-Y)*60+Z
++++
10340 REM Get Airflow
10350 Y1=SEG(B1,90,7)
10360 Y1=VAL(Y1)
10370 X0=X0*Q0/(Y1*Z)*1.0E-3
10380 L0=L0*Q0/(Y1*Z)*1.0E-3
10390 U0=U0*Q0/(Y1*Z)*1.0E-3
10400 REM Print out Actual Data
10410 Y1=B1
10420 IF INT((N-1)/20)*20<N-1 THEN 10630
10430 B1=B1
10440 B1=REP("Actual Data for ",24,14)
10450 B1=REP("M,40,2)
10460 B1=REP("Date:",52,5)

```

```

10170 B$=REP(D$,58,8)
10400 PRINT "ENDJ"
10490 PRINT "J"
10500 B$=E$
10510 B$=REP("Abient Concentration",29,19)
10520 PRINT "JJ"
10530 B$=E$
10540 B$=REP("-----",24,29)
10550 PRINT B$
10560 B$=E$
10570 B$=REP("Sample Location",5,13)
10580 B$=REP("True",25,4)
10590 B$=REP("Lower 95%",32,9)
10600 B$=REP("Upper 95%",44,9)
10605 B$=REP("TIME",59,4)
10610 PRINT B$

10620 REM Print Data

10630 B$=E$
10640 X$=SEG(T$,21,6)
10650 B$=REP(X$,5,6)
10660 X$=SEG(T$,116,2)
10670 B$=REP(X$,15,2)
10680 L$=STR(X0)
10690 GOSUB 58000
10700 IF X0>1.0E-3 THEN 10730
10710 L$=L$*"*"
10720 G0=1.00
10730 B$=REP(L$,24,00)
10740 IF X0<1.0E-4 THEN 10022
10750 L$=STR(G0)
10760 GOSUB 58000
10770 GOSUB 14000
10780 B$=REP(L$,34,00)
10790 L$=STR(L0)
10800 GOSUB 58000
10810 GOSUB 14000
10820 B$=REP(L$,46,00)
10830 L$=SEG(T$,120,4)
10840 B$=REP(L$,56,4)
10826 L$=SEG(T$,124,4)
10828 B$=REP(L$,62,4)
10830 PRINT B$
10840 RETURN

13999 REM check if data is from location "DR","CR","RA","LA"

```

```

---2--- 14000 Y$=SEG(T$,116,2)
14010 IF Y$="DR" OR "CR"=Y$ OR Y$="RA" OR Y$="LA" THEN 14030
14020 L$=SEG(E$,1,00)
14030 RETURN

```

```

14995 REM Solve Linear Regression in Reverse
14996 REM for Upper and Lower Confidence Limits
14997 REM Y0,X0 L0,U0
14998 REM T-VALUES L=0.025 U=0.975

```



```

---1---
15000 X7=X0
15010 U0=0

15020 REM Transform Y0
15030 Y0=(Y0/P(31))*P(29)
15040 Y7=Y0
15042 IF F(8)<42 THEN 15050
15043 REM I-VALUE
15044 T3=3.8416#P(6)
15046 GO TO 15060
15050 T3=T3*(F(8)-2)*P(6)
15060 A1=F(2)*P(2)-P(10)*T3
15070 B1=P(2)*(Y7-F(1))-P(11)*T3
15080 A7=(X7/P(30))*P(7)
15090 B3=0
15100 A2=A9/P(12)
15110 B2=Y7-P(1)
15120 A3=13*(P(11)-2-F(10)*A2)+P(2)*P(2)*A2+B2*(P(10)*B2-2*P(2)*P(11))
15125 IF A3=0 THEN 15190
15127 IF F(8)<42 THEN 15134
15130 B3=T3*(F(8)-2)*SUR(A3*P(6))
15132 GO TO 15140
15134 B3=1.5650R(A3*P(6))
15140 X7=(B1+B3)/A1
15150 L0=X7-P(32)
15160 X7=(B1-B3)/A1
15170 U0=X7-P(32)
15180 RETURN

15190 REM***PRINT *IMAGINARY ROOTS*
15200 L0=10000
15210 X7=10000
15220 U0=10000
15230 RETURN
15000 PRINT *Processing Q1 & QP Found vs Target data for *IM*
16010 C=0
16020 O1=0
16030 GOSUB 7000
16040 IF N=0 THEN 16570
16050 F=0
16060 F(3)=3
16070 GOSUB 3000
16080 GOSUB 20000
16090 GOSUB 25000
16100 F(13)=CB
16110 F(14)=A1
16120 M1=0
16130 M2=0
16140 M3=0
16150 M4=0
16160 M5=0
16170 F(8)=N
16180 FOR I=1 TO P(8)
16190 M1=M1+X1(I)

```

```

16200 M5=M2+Y1(I)
16210 M3=M3+X1(I)*X1(I)
16220 M4=M4+Y1(I)*Y1(I)
16230 M5=M5+X1(I)*Y1(I)
16240 NEXT I
16250 C=P(8)*M3-M1*M1
16260 P(10)=P(8)/C
16270 P(11)=M1/C
16280 P(12)=M3/C
16290 P(2)=(P(8)*M5-M1*M2)/(P(8)*M3-M1*M1)
16300 P(1)=(M2-P(2)*M1)/P(3)
16310 P(4)=P(1)
16320 P(5)=P(2)
16330 D=0
16340 FOR I=1 TO P(8)
16350 D=D+(Y1(I)-P(1)-P(2)*X1(I))^2
16360 NEXT I
16370 P(23)=1-D/(M4-M2*M2/P(8))
16380 P(6)=D/(P(8)-2)
16400 P(9)=1
16410 P(29)=1
16420 P(27)=P(6)
16430 L3=Found vs Target *104
16440 L3=L3/104
16450 L3=L3/104
16460 DIM Y$(30)
16470 Y$=Found*
16480 X$=Target*
16490 D$=SEG$(Y$,14,2)
16500 D$=D$*"/"
16510 U1=SEG$(D$,12,2)
16520 D1=D1*XM1
16530 D1=D1*"/"
16540 U1=SEG$(D$,16,2)
16550 U1=U1*XM1
16560 GOSUB 61000
16570 RETURN

```

```

19975 REM
19976 REM Perform BARTLETT'S TEST for homoscedasticity
19977 REM P(6),P(7),Y2(J),X2(N0(J)),K1CB,M1
19978 REM find variance for each level
19979 REM

```

+++++

```

---2---
20000 ON SIZE THEN 20370
20010 CB=-1
20020 IF N=0 THEN 20370
20030 G3=1
20040 S=0
20050 COSUB 6000
20060 S=0
20070 FOR J=1 TO N
20080 IF N2(J)=1 THEN 20110
20090 S(N2(J))=S(N2(J))+Y1(J)-M7(N2(J))/N0(N2(J))^2
20100 NEXT J
20110 FOR J=1 TO K
20120 S(J)=S(J)/(N0(J)-1)
20130 IF S(J)=0 THEN 20370

```

+++++

```

20150 NEXT J
20160 REM find pooled variance
20170 A=0
20180 S3=1
20190 FOR J=1 TO K
20200 A=(NO(J)-1)*S(J)/S3+A
20210 NEXT J
20220 S4=A/(N7-K)
20230 REM find correction factor
20240 A=0
20250 FOR J=1 TO K
20260 A=1/(NO(J)-1)+A
20270 NEXT J
20280 C=1+A/(3*(K-1))
20290 REM find CHI-SQUARE
20300 A=0
20320 FOR J=1 TO K
20330 A=(NO(J)-1)*LOG(S(J)/S3)+A
20340 NEXT J
20350 CB=((N7-K)*LOG(S4)-A)/C
20360 IF CB>0 THEN 20390

```

```

---3--- 20370 PRINT "DAKILETT'S TEST not defined for data set 'JH$
1111111 20380 CB=-1
20390 HI=N-1
20400 OFF SIZE
20410 RETURN

```

```

24999 REM CHI-SQUARE DISTRIBUTION

```

```

---2--- 25000 IF CB>0 THEN 25030
25010 A1=-1
25020 RETURN
1112111 25030 A1=0
1111111 25040 IF CB>100 THEN 25020
25050 A=A1/2
25060 U=CB/2
25070 GOSUB 25120
25080 IF A1=0 THEN 25020
25090 A2=10*(5+INT((-LOG(A1)))
25100 A1=INT(A2*A1+.5)/A2
25110 RETURN

```

```

---1--- 25120 IF A>100 THEN 25630
25130 A1=1
25140 A2=1
25150 B2=1
25160 I=1
25170 IF B2A THEN 25330
25180 B1=U

```

```

++11++
25190 R2=U+1-A
25200 A1=U+A2+1*A1
25210 R1=U+R2+1*B1
25220 I=I+1
25230 A2=A1+(I-A)*A2
25240 R2=R1+(I-A)*B2
25250 IF ABS(A1/B1-A2/B2)>1.0E-7 THEN 25200
25260 C9=A2/B2
25270 F2=A*LOG(U)-U
25280 X=A
25290 GOSUB 25470
25300 A1=C9*EXP(F2-A1)
25310 RETURN
++11++
25320 R1=A+2
25330 A1=B1-U
25340 C9=2*A1A
25350 A2=C9*A1+1*U*A2
25360 R2=C9*B1+1*U*B2
25370 A1=C9*A2+A2-(A1)*U*A1
25380 B1=C9*B2+B2-(A1)*U*B1
25390 I=I+1
25400 IF ABS(A2/B2-A1/B1)>1.0E-8 THEN 25340
25410 C9=B1/A1
25420 X=A+1
25430 GOSUB 25470
25440 A1=A*LOG(U)-U-A1
25450 A1=A1-C9*EXP(A1)
25460 RETURN

```

```

---2---
25470 IF X<10 THEN 25500
25480 GOSUB 25600
25490 RETURN
++11++
25500 A2=10-INT(X)
25510 R1=1
25520 FOR J=0 TO A2-1
25530 R1=B1*(X+1)
25540 NEXT J
25550 X=X+A2
25560 GOSUB 25600
25570 X=X-A2
25580 A1=A1-LOG(R1)
25590 RETURN

```

```

---2---
25600 A1=(X-0.5)*LOG(X)-X+0.5*LOG(2*PI)
25610 A1=A1+1/(12*X)-1/(360*X*X*X)+1/(1260*X*X*X*X*X)
25620 RETURN
++11++
25630 A1=A-0.5
25640 R1=U+1/3-A-0.02/A
25650 X=A1/U
25660 C9=0
25670 IF X=0 OR X=1 THEN 25690
25680 C9=(1-X)*F2+X*LOG(X))/((1-X)*(1-X))
25690 C9=B1*SQR((1+C9)/U)
25700 IF ABS(C9)>20 THEN 25780
25710 I=I/(1+0.2316419*A*B5(C9))
25720 A1=A+0.0193815*I*(-0.356563782+1.781477937*I)
25730 A1=A1+I*(1+I*(-1.821255978+1.330274429*I)
25740 A1=SQR(1/(2*A1))*EXP(-C9*C9/2)*A1

```

++1+++ 25750 IF C9>0 THEN 25770

25750 A1=1-A1

++1+++ 25770 RETURN

++1+++ 25780 A1=0

25790 GO TO 25750

57995 REM ROUTINE TO PRINT NUMBERS TO 3 DECIMAL PLACES

57996 REM L\$(L) PASSED IN CONTAINING NUMBER IN CHARACTER FORM THAT

57997 REM IS TO BE PRINTED OUT TO 3 DECIMAL PLACES.

57998 REM RESULTANT STRING IS PASSED BACK IN L\$

57999 REM FORMAT OF RESULT \$D.000 WITH LENGTH OF 7

---3--- 58000 K\$=SEG(L\$,2,1)

58010 IF K\$=-. THEN 58120

58020 Q0=POS(L\$,"E",1)

58030 IF Q0=0 THEN 58070

58040 L\$=SEG(L\$,1,7)

58050 Q0=7

58060 RETURN

++1+++ 58070 REM NUMBER IS IN SCIENTIFIC NOTATION

58080 K\$=SEG(L\$,Q0+1,4)

58090 Q0=VAL(K\$)

58100 IF Q0=0 THEN 58260

58110 IF Q0=-5 THEN 58150

58120 L\$=. 0.0000

58130 Q0=7

58140 RETURN

++1+++ 58150 K\$=SEG(L\$,1,1)

58160 K\$=K\$*10.

58170 GO TO -00 OF 58200,58190,58180,58175

58175 K\$=K\$*3.

++1+++ 58180 K\$=K\$*0.

++1+++ 58190 K\$=K\$*0.

++1+++ 58200 Q0=7-LEN(K\$)

58210 L\$=SEG(L\$,2,Q0+1)

58220 L\$=REP(" ",2,1)

58230 L\$=K\$*L\$

58240 Q0=7

58250 RETURN

++1+++ 58260 REM SECTION TO PRINT OUT \$>0

58270 L\$=SEG(L\$,1,6)

58280 L\$=L\$*E.

58290 L\$=L\$*K\$

58300 Q0=7+LEN(K\$)

58310 RETURN

59990 REM FIND / OPEN

59999 REM F\$ NY

---5--- 60000 FIND Q02:0

60010 FIND Q02:1

60020 INPUT Q02:B\$

```

60030 J1=SEG(R1,1,3)
60040 IF J1<>"IDS" THEN 60300
60050 INPUT Q2;A
60060 IF A=1 THEN 60140
60070 INPUT Q2;B4
60080 DIM J1(10)
60090 J1=SEG(R1,4,10)
60100 F=LEN(F1)
60110 DIM J1(F)
60120 IF F=J1 THEN 60170
60130 GO TO 60050
60140 PRINT "ERROR *** FILE 'IF1' NOT FOUND"
60150 PRINT Q2;21
60160 END
60170 J1=SEG(R1,1,3)
60180 N9=VAL(J1)
60190 FIND Q2;10
60200 FIND Q2;19
60210 INPUT Q2;14
60230 J1=SEG(R1,1,F)
60240 IF J1<>F THEN 60260
60250 RETURN
60260 PRINT "File does not match internal name"
60270 PRINT "index name=";F1;" internal name=";J1
60280 PRINT Q2;21
60290 END
60300 PRINT "Tape in external drive is not a IDS Data Tape"
60310 GO TO 60280

60998 REM Define and Write Plot File
60999 REM H1,L1,X1,Y1,D1,F1,F2

```

```

---2---
61000 DIM F1(3)
61010 F1="000"
61020 FINE Q2;0
61030 FIND Q2;11
61040 INPUT Q2;61A
61050 IF A<>2 THEN 61120
61060 INPUT Q2;14
61070 A1=SEG(R1,4,6)
61080 Q1="P.2M1
61090 IF A1<>Q1 THEN 61040
61100 F1=SEG(R1,10,2)
61110 GO TO 61040
61120 T1=VAL(F1)
61130 T1=1+T1
61140 F1=STR(T1)
61150 F1="P.2M1
61160 F1=F1&F1
61170 REM update index
61180 A1=SEG(R1,1,3)
61190 I1=VAL(A1)
61200 T1=1+I1
61210 I1="
61220 PRINT Q2; USING 61230;T1,F1,T1,I1
61230 IMAGE 30,10A,1A,20A

```

```

61240 PRINT Q02:2;
61250 FIRD Q02:0
61260 FIRD Q02:13
61270 MARK Q02:13:2500
61280 FIRD Q02:0
61290 FIRD Q02:13
61300 PRINT Q02: USING 61310: F%.D%.US
61310 IMAGE 10A:EA:DA
61320 PRINT Q02:13
61330 PRINT Q02:13
61340 PRINT Q02:13
61350 PRINT Q02:13
61360 PRINT Q02:13
61370 PRINT Q02:13
61380 DIM X2(P(H)),Y2(P(H))
61390 PRINT Q02:13:Y2
61400 PRINT Q02:2;
61405 DELETE X2:Y2
61407 DIM X2(33),Y2(32)
61410 REM update Plotfiles
61420 F%-PLOTFILES*
61430 GO:UB 40000
61440 INPUT Q02:2:A
61450 IF A=2 THEN 61480
61460 INPUT Q02:13
61470 GO TO 61440
61480 PRINT Q02:13
61490 PRINT Q02:2;
61500 RETURN

```

```

*****

```

```

*****

```

FILE 03

```

100 INIT
110 DATA 33.11,32
120 READ U1,U2,U3
130 DIM D(8),U5(8)
140 DIM I7(40)
150 DATA 12.706,4.303,3.103,2.776,2.579,2.451,2.344,2.307,2.262,2.228
160 DATA 2.201,2.179,2.16,2.145,2.131,2.12,2.11,2.101,2.093,2.086,2.08
170 DATA 2.074,2.069,2.064,2.06,2.056,2.052,2.049,2.046,2.043,2.04
180 DATA 2.037,2.035,2.033,2.03,2.028,2.027,2.025,2.023,2.022
190 READ I7
200 FIND Q02:0
210 FIND Q02:2
220 INPUT Q02:6:A
230 IF A=1 THEN 2050
240 INPUT Q02:U5:04
250 DIM M(20),I(20),T(24),I5(40),X5(30),Y5(30),P(34),L5(40),A5(3)
260 PRINT M03,17:4
270 REMS
280 REMS GET LIST OF FILES TO BE PLOTTED
290 REMS
300 FS="PLOTFILES"
310 GOSUB 3620
320 I=0
330 I=I+1
340 INPUT Q02:6:A
350 IF I=1 AND A=1 THEN 2060
360 INPUT Q02:M(1)
370 INPUT Q02:6:Y1(2)
380 IF I(1)=2 THEN 330
390 I(1)=I
400 REMS
410 REMS START PLOT LOOP
420 REMS
430 FOR I9=1 TO I(1)
440 FIND Q02:0
450 FIND Q02:M(19)
460 INPUT Q02:24
470 INPUT Q02:15
480 INPUT Q02:14
490 INPUT Q02:15
500 INPUT Q02:04
510 INPUT Q02:14
520 INPUT Q02:15
530 IF I9=1 THEN 530
540 GO-F(3)
550 IF F(3)=0 THEN 2040
560 WRITE X,Y
570 DIM X(F(3)),Y(F(3))
580 H(1)=0
590 INPUT Q02:14,Y
600 REMS
610 REMS GET DEFAULT PLOT PARAMETER
620 REMS

```



```

600 REM T(4) MIN X VALUE OF GRAPH      T(5)-LENGTH OF X AXIS
610 REM T(14)-MIN Y VALUE             T(15)-LENGTH OF Y AXIS

620 VILUFORT 0.130,0.100
630 WINDOW 0.130,0.100
640 T=0
650 T(1)=P(U)
660 T(2)=2
670 T(3)=4
680 T(4)=10
690 T(5)=70
700 T(6)=1
710 T(7)=1
720 T(14)=25
730 T(15)=70
740 T(18)=1
750 T(19)=1

760 REM LABEL PLOT
770 REM TITLE GRAPH

780 XO=T(5)/2+T(4)-LEN(L)87/8
790 YO=97
800 PAGE
810 MOVE QUS:XO,YO
820 PRINT QUS:L$

830 REM DUMP X AXIS TITLE
840 XO=T(5)/2+T(4)-LEN(X)87/8
850 YO=T(14)-10
860 MOVE QUS:XO,YO
870 PRINT QUS:X$

880 REM DUMP Y AXIS LABEL
890 XO=3
900 YO=T(15)/2+T(14)+LEN(Y)+10/7
910 MOVE QUS:XO,YO
920 PRINT QUS:Y$
930 FOR I=1 TO LEN(Y$)
940  ZI=SEG(Y$(I))
950  PRINT QUS:ZI
960 NEXT I

970 REM DISPLAY INFO ON RIGHT SIDE OF PLOT

980 XO=T(4)+T(5)+5
990 YO=T(14)+T(15)-2
1000 MOVE QUS:XO,YO
1010 PRINT QUS:AGENT: "IAS"
1020 YO=YO-4
1030 MOVE QUS:XO,YO
1040 PRINT QUS:UNIT: "105"
1050 YO=YO-4
1060 MOVE QUS:XO,YO
1070 PRINT QUS:STATISTICS:
1080 MOVE QUS:XO,YO-0.5
1090 PRINT QUS: "-----"
1100

```

```

1110 T9=2
1120 IMAGE FA,20,30,FA,S
1130 Y0=Y0-3
1140 MOVE Q03:X0,Y0
1150 PRINT Q03:"BARTLETT'S"
1160 Y0=Y0-3
1170 MOVE Q03:X0+19,Y0
1180 PRINT Q03: USING 1120:"P(14)!"
1190 IF P(20)=0 THEN 1210
1200 PRINT Q03: USING 1120:"P(20)!"
1210 Y0=Y0-3
1220 IMAGE FA,20,30
1230 MOVE Q03:X0,Y0
1240 PRINT Q03:"R-SQUARED"
1250 Y0=Y0-3
1260 MOVE Q03:X0+19,Y0
1270 PRINT Q03: USING 1220:"P(23)"
1280 IMAGE FA,3E
1290 Y0=Y0-3
1300 MOVE Q03:X0,Y0
1310 PRINT Q03:"HSE!"
1320 Y0=Y0-3
1330 MOVE Q03:X0+19,Y0
1340 PRINT Q03: USING 1280:"P(27)"
1350 Y0=Y0-6
1360 MOVE Q03:X0,Y0
1370 PRINT Q03:"PARAMETERS"
1380 MOVE Q03:Y0,Y0-0.5
1390 PRINT Q03:-----
1400 Y0=Y0-4
1410 IMAGE FA,30,20,FA,20,30,FA,S
1420 MOVE Q03:X0,Y0
1430 GO TO P(3) OF 1490,1450,1510
1440 REM case 2 Y=ln(Y)
1450 PRINT Q03:"ln(Y)=a+bX"
1460 GO TO 1520
1470 REM case 1 X=ln(X)
1480 PRINT Q03:"Y=a+b ln(X)"
1490 GO TO 1520
1500 REM case 3 no transform
1510 PRINT Q03:"Y=a+bX"
1520 Y0=Y0-3
1530 MOVE Q03:X0+19,Y0
1540 PRINT Q03: USING 1280:"a= ",P(4)
1550 Y0=Y0-3
1560 MOVE Q03:X0+19,Y0
1570 PRINT Q03: USING 1280:"b= ",P(5)
1580 IF P(7)=0 THEN 1730
1590 Y0=Y0-3
1600 MOVE Q03:X0+19,Y0
1610 PRINT Q03: USING 1280:"c(X + w)~d"
1620 Y0=Y0-3
1630 MOVE Q03:X0+19,Y0

```

```

1650 PRINT QJ31 USING 12801: c = .P(4)
1660 YO=YO-3
1670 MOVE QJ3:X0+Y9,Y0
1680 PRINT QJ3: USING 12801: d = .P(7)
1690 YO=YO-3
1700 MOVE QJ3:X0+Y9,Y0
1710 PRINT QJ3: USING 12801: e = .P(30)
1720 YO=YO-3
1730 MOVE QJ3:X0,Y0
1740 PRINT QJ3: y' = (-Y + f) * d
1750 YO=YO-3
1760 MOVE QJ3:X0,Y0
1770 PRINT QJ3: x' = X + h
1780 YO=YO-3
1790 MOVE QJ3:X0+Y9,Y0
1800 PRINT QJ3: USING 12801: f = .P(31)
1810 YO=YO-3
1820 MOVE QJ3:X0+Y9,Y0
1830 PRINT QJ3: USING 12801: g = .P(29)
1840 YO=YO-3
1850 MOVE QJ3:X0+Y9,Y0
1860 PRINT QJ3: USING 12801: h = .P(32)
1870 MOVE QJ3: (4) * (5) * (14)
1880 DRAW QJ3: (4) * (5) * (14) * (15)
1890 DRAW QJ3: (4) * (14) * (15)
1900 GOSUB 4030
1910 IF U3=1 THEN 1980
1920 PRINT "TJ"
1930 PRINT "DO YOU WANT A PLOTTER PLOT OF THIS PLOT? (Y/N)"
1940 INPUT B
1950 IF B<>"Y" THEN 1980
1960 U3=10
1970 GO TO 320
1980 U3=72
1990 GO TO 2000
2000 NEXT I9
2010 REM
2020 FIND 4
2030 ULD
2040 PRINT "NO DATA SETS FOUND ON THIS TAPE"
2050 END
2060 PRINT "THERE ARE NO PLOT FILES CURRENTLY QUEUED TO BE PRINTED"
2070 END
2080 REM
2090 REM# PLOT SUBROUTINES
2100 REM#
-----1----- 2110 REM#
2120 U9=4
2130 GOSUB 3160
2140 U9=14
2150 GOSUB 3160
2160 U9=4
2170 Y0=Y0-5
2180 MOVE QJ3:X0,Y0

```

```

2190 PRINT QUS1:SCALE FACTORS:
2200 MOVE QUS:X0,Y0-0.5
2210 PRINT QUS:
2220 Y0=Y0-4
2230 MOVE QUS:X0,Y0
2240 PRINT QUS:X axis: 10**IX2
2250 Y0=Y0-3
2260 MOVE QUS:X0,Y0
2270 PRINT QUS:Y axis: 10**IY2
2280 VTEUFORT T(4),T(4)+T(5),T(14),T(14)+T(15)
2290 UNDOU T(6),T(6)+T(7),T(16),T(16)+T(17)
2300 AXIS QUS:T(8),T(18)
2310 J=1
2320 K2=T(10)/(T(17)/T(15))
2330 K3=T(14)
2340 U4=SIR(T(16)+T(11)*T(18))
2350 PRINT QUS:21:0 MAX T(4)-(LEN(U4)+1)*1.78*K3-Q.89
2360 PRINT QUS:U4
2370 IF J>T(19) THEN 2410
2380 K2=K2+K2
2390 J=1+J
2400 GO TO 2340
2410 K2=T(8)/(T(7)/T(5))
2420 K3=T(4)
2430 J=1
2440 U4=SIR(T(6)+T(11)*T(18))
2450 PRINT QUS:21:0 MAX K3-(LEN(U4)+1)*1.78*0.5,T(14)-4
2460 PRINT QUS:U4
2470 IF J>T(9) THEN 2510
2480 K3=K3+K2
2490 J=1+J
2500 GO TO 2340
2510 FOR J=1 TO T(1)
2520 IF T(2)<1 THEN 2540
2530 IF J=1 THEN 2560
2540 MOVE QUS:X(J),Y(J)
2550 GO TO 2570
2560 DRAW QUS:X(J),Y(J)
2570 GOSUB 2600
2580 NEXT J
2590 RETURN

---I--- 2600 S2=T(14)*T(14)+T(14)+0.75
2610 S1=T(4)*T(4)+T(4)+0.75
2620 GO TO T(3) OF 2910,2640,2700,2770,2840
2630 GO TO 2910
2640 MOVE QUS:0,S2
2650 DRAW QUS:S1,-2*S2
2660 DRAW QUS:-2*S1,0
2670 DRAW QUS:S1,2*S2
2680 MOVE QUS:0,-S2
2690 RETURN
2700 DRAW QUS:0,S2
2710 DRAW QUS:0,-2*S2
2720 DRAW QUS:0,S2
2730 DRAW QUS:-S1,0
2740 DRAW QUS:2*S1,0
2750 DRAW QUS:-S1,0
2760 RETURN

```

```

+++1+++ 2770 RHOVE Q03:01-S2
2780 ROKAM Q03:01-2-S2
2790 ROKAM Q03:01-2-S1-0
2800 ROKAM Q03:01-2-S2
2810 ROKAM Q03:01-2-S1-0
2820 RHOVE Q03:01-S1-S2
2830 RETURN
+++1+++ 2840 RHOVE Q03:01-S2
2850 ROKAM Q03:01-S1-S2
2860 ROKAM Q03:01-S1-S2
2870 ROKAM Q03:01-S1-S2
2880 ROKAM Q03:01-S1-S2
2890 RHOVE Q03:01-S2
2900 RETURN
+++1+++ 2910 IF T(2)=1 THEN 2930
2920 ROKAM Q03:01-0
+++1+++ 2930 RETURN

```

```

---1--- 2940 Y2=0
2950 T(16)=10^39
2960 T(17)=T(22)
2970 FOR J=1 TO T(1)
2980 Y(16)=T(16) MIN Y(J)
2990 T(17)=T(17) MAX Y(J)
3000 NEXT J
3010 T9=T(17)-T(16)
3020 T(17)=T9*(T9<0)+(T9=0)
3030 IF T9<1 THEN 5300
3040 RETURN

```

```

---1--- 3050 X2=0
3060 T(5)=10^39
3070 T(7)=T(12)
3080 FOR J=1 TO T(1)
3090 Y(5)=T(6) MIN X(J)
3100 T(7)=T(7) MAX X(J)
3110 NEXT J
3120 T9=T(7)-T(6)
3130 T(7)=T9*(T9<0)+(T9=0)
3140 IF T9<1 THEN 5350
3150 RETURN

```

```

---2--- 3160 UIM S0(5)
3170 S0(3)=INT(T09+1)/15)
3180 S0(3)=T09+3/S0(3)
3190 S0(4)=INT(ABS(S0(3))) *SGN(LGT(S0(3)))
3200 S0(4)=INT(10^S0(4)+1.0E-4)
3210 IF S0(4)=0 THEN 3250
3220 S0(3)=1
3230 S0(4)=1
3240 GO TO 3330
3250 S0(5)=S0(3)/S0(4)
3260 S0(3)=S0(4)*10
3270 IF S0(5)=10 THEN 3290
3280 S0(3)=S0(4)*5
3290 IF S0(5)=5 THEN 3310
3300 S0(3)=S0(4)*2

```

```

+++1+++ 3340 S0(5)=S0(3)/S0(4)
3350 S0(3)=S0(4)*10
3360 IF S0(5)=10 THEN 3390
3370 S0(3)=S0(4)*5
3380 IF S0(5)=5 THEN 3410
3390 S0(3)=S0(4)*2

```

```

++11+++ 3310 IF S0(5)>2 THEN 3330
3320 S0(3)=S0(4)
++12+++ 3330 S0(5)=T(U9+2)/S0(3)
3340 IF S0(5)>0 THEN 3360
3350 S0(5)=S0(5)-0.9999
++11+++ 3360 S0(1)=S0(3)*(INT(ABS(S0(5))))*SGN(S0(5)))
3370 S0(5)=(T(U9+3)+T(U9+2))/S0(3)
3380 IF S0(5)<0 THEN 3400
3390 S0(5)=S0(5)+0.9999
++11+++ 3400 S0(2)=S0(3)*(INT(ABS(S0(5))))*SGN(S0(5)))
3410 S0(5)=S0(2)-S0(1)
3420 S0(4)=INT(INT(ABS(S0(5))))*SGN(S0(5))/S0(3)
3430 IF S0(5)>1 THEN 3460
3440 S0(3)=S0(5)
3450 S0(4)=1
++11+++ 3460 IF S0(3)>1 THEN 3490
3470 S0(3)=S0(5)
3480 S0(4)=1
++11+++ 3490 T(U9+2)=S0(1)
3500 T(U9+3)=S0(2)-S0(1)
3510 T(U9+4)=S0(3)
3520 T(U9+5)=S0(4)
3530 T(U9+6)=1.75*T(U9+3)/T(U9+1)
3540 RETURN
3550 X4=X0+P(32)
3560 IF P(3)<2 THEN 3580
3570 X4=LOG(X4)
++11+++ 3580 Y0=(F(1)+F(2)*X4)^(1/P(29))-P(31)
3590 IF P(3)<1 THEN 3610
3600 Y0=LOG(Y0)
++11+++ 3610 RETURN

```

```

---1--- 3620 REM FIND/OPEN
3630 REM* (F*,N9)

3640 FIND E02:0
3650 FIND E02:1
3660 INPUT E02:B4
3670 J4=SEG(B4,1,3)
++11+++ 3680 IF J4<10 THEN 3970
3690 INPUT E02,A
3700 IF A=1 THEN 3780
3710 INPUT E02:B4
3720 DIM J4(10)
3730 J4=SEG(B4,4,10)
3740 F=LEN(F4)
3750 DIM J4(F)
3760 IF J4=F4 THEN 3820
3770 GO TO 3690

++11+++ 3780 REM*

3790 PRINT "ERROR *** FILE: F4: NOT FOUND"
3800 CLOSE
3810 END

++11+++ 3820 J4=SEG(B4,1,3)
3830 N9=VAL(J4)
3840 FIND E02:0

```

```

3850 FIND Q02:N9
3860 INPUT Q02:R#
3870 DIM J$(10)
3880 J$=SEQ(R$,1,10)
3890 F=LEN(J$)
3900 DIM J$(F)
3910 IF J$C F$ THEN 3930
3920 RETURN
+++1+++
3930 PRINT "FILE DOES NOT MATCH INTERNAL NAME"
3940 PRINT "INDEX NAME ="F$:"INTERNAL NAME ="J$
3950 PRINT Q02:2:
3960 END
+++1+++
3970 PRINT "DATA TAPE IN EXTERNAL TAPE UNIT IS NOT A IDS DATA TAPE"
3980 PRINT Q02:2:
3990 END

```

---1--- 4000 REM# PLOT DATA: CURVE AND CONFIDENCE LIMITS

```

4010 GOSUB 2940
4020 GOSUB 3050
4050 REM# ADJUST X RANGE
4060 T(6)=T(6)-0.1*T(7)
4070 T(6)=T(6) MAX 0.01*T(7)
4080 T(7)=T(7)*1.2
4090 REM# ADJUST Y-RANGE
4100 T(16)=T(16)-0.05*T(17)
4110 T(16)=T(16) MAX 0.01*T(17)
4120 T(17)=T(17)*1.1
4130 REM# PLOT OBSERVED DATA
4140 GOSUB 2110
4150 REM#
4160 REM# DRAW Q03: UPPER AND LOWER CONFIDENCE LIMITS
4170 REM#
4180 REM T(16)=T(16)+0.01*T(17)
4190 Y0=T(16)
4200 GOSUB 4820
4230 MOVE Q03:X0*10-X2,T(16)*10-Y2
4230 FOR Y5=T(16) TO T(16)+T(17) STEP T(17)/100
4240 Y0=Y5
4250 GOSUB 4820
4270 DRAW Q03:X0*10-X2,Y5*10-Y2
4280 NEXT Y5
4290 Y0=T(16)
4300 GOSUB 4820
4310 Y0=T(16)
4320 L=T(16)
4330 GOSUB 4950
4350 MOVE Q03:L0*10-X2,T(16)*10-Y2
4360 L7=10-Y2
4365 D0=10000

```

```

4370 FOR Y5=(T(16)-T(17))*D7 TO (T(16)+T(17))*D7 STEP T(17)/100*D7
4380 IF P(3)=2 AND Y5<=-P(31) THEN 4470
4390 Y0=Y5
4400 GOSUB 4820
4410 Y0=Y5
4420 GOSUB 4950
4430 DRAW GU3:L0*10^-X2,Y5*10^-Y2
4450 IF L0>0 THEN 4470
4460 L0=L0
4470 NEXT Y5
4480 Y0=T(16)
4490 GOSUB 4820
4500 Y0=Y(16)
4510 GOSUB 4950
4530 MOVE GU3:U0*10^-X2,T(16)*10^-Y2
4540 FOR Y5=T(16)*D7 TO (T(16)+T(17))*D7 STEP T(17)/100*D7
4550 IF P(3)=2 AND Y5<=-P(31) THEN 4620
4560 Y0=Y5
4570 GOSUB 4820
4580 Y0=Y5
4590 GOSUB 4950
4610 DRAW GU3:U0*10^-X2,Y5*10^-Y2
4620 NEXT Y5
4630 L4=10000
4640 FOR T5=1 TO N
4650 IF X(T5)<0 THEN 4670
4660 T4=T4 MIN X(T5)*10^-X2
4670 NEXT T5
4680 IF DR>T4 THEN 4700
4690 D0=D4
4700 VICUFORT 0,130,0,100
4710 WINDOW 0,130,0,100

4720 REM11 X4=DETECTION LIMIT IS
4723 REM11 IF D0<10000 THEN 4730
4725 X4=" "

4726 REM11 X4="WARNING - Detection Limit EGROGROOR"

4728 GO TO 4770
4730 Y4=STR(D0)
4740 Y0=POS(Y4,".",1)
4750 Y4=SEC(Y4,1,Y0+2)
4760 X4=X4$Y4
4770 X0=1(S)/2+T(4)-LEN(X4)*7/8
4780 Y0=1(14)-14
4790 MOVE GU3:X0,Y0
4800 PRINT GU3:X4
4802 Y0=Y0-3
4803 Y4=STR(D0)
4804 X4="Calibration Curve # "Y4$
4805 X0=1(S)/2+T(4)-LEN(X4)*7/8
4806 MOVE GU3:X0,Y0
4807 PRINT GU3:X4
4810 RETURN

```



```

4830 REM* SOLVE LINEAR REGRESSION IN REVERSE FOR X0
4840 REM* (Y0/X0)
4850 REM* TRANSFORM Y0
4860 REM* Y0=(Y0/P(31))*P(29)

4870 IF P(3)<2 THEN 4890
4880 Y0=LOG(-Y0/P(31))
4890 X0=(Y0-P(1))/P(2)
4900 IF P(3)<1 THEN 4920
4910 X0=EXP(X0)
4920 X0=X0-P(32)
4930 RETURN

4940 REM*

```

++11++

++11++

---4---

```

4950 REM*
4960 REM* SOLVE LINEAR REGRESSION IN REVERSE FOR
4970 REM* UPPER AND LOWER CONFIDENCE LIMITS
4980 REM* (Y0/X0/L0/U0)
4990 REM* T-VALUES L=.035 U=.975
4991 REM L0 is the lower curve if slope is positive
4992 REM U0 is the upper curve if slope is positive
4993 REM L0 is the lower curve if slope is negative
4994 REM U0 is the upper curve if slope is negative

```

```

5000 V3=0
5010 U0=0

```

```

5020 REM* Power Transform
5030 REM* Y0=(Y0/P(31))*P(29)
5040 REM Functional Transform

```

```

5050 IF P(3)<2 THEN 5070

```

```

5060 Y0=LOG(-Y0/P(31))
5070 T3=T7(N-2)*P(6)
5080 A1=P(2)*P(10)*T3
5090 B1=P(2)*(Y0-P(1))-P(11)*T3
5100 A2=(X0/P(30))*P(7)+P(12)
5110 B2=Y0-P(1)
5120 A3=T3*P(11)*P(10)*A2+P(2)*P(2)*P(2)*P(11)*B2
5122 IF A3=0 THEN 5130

```

++11++

```

5123 MOVE BUI:10,10
5124 PRINT BUI:Imaginary Roots. Execution halted.
5126 STOP

```

```

5130 B3=T7(N-2)*SOR(A3*P(6))
5140 X0=(B1+B3)/A1

```

++11++

```

5150 REM Inverse Functional Transform

```

```

5160 IF P(3)<1 THEN 5180
5170 X0=EXP(X0)
5180 U0=X0-P(32)
5190 X0=(B1-B3)/A1

```

++11++

```

5200 REM* Inverse Functional transform

```

```

5210 IF P(3)<1 THEN 5230
5220 X0=EXP(X0)
5230 L0=X0-P(32)

```

++11++

5280 RETURN

5290 REM scale X & Y for plot

+++++

5300 FOR J=1 TO 1(1)

5310 Y(J)=10*Y(J)

5320 NEXT J

5330 Y2=Y2-1

5340 GO TO 2950

+++++

5350 FOR J=1 TO 1(1)

5360 X(J)=10*X(J)

5370 NEXT J

5380 X2=X2-1

5390 GO TO 3060

95 REMS QC ANALYSIS

210 RENN*
211 RENN* GET LIST OF FILES TO BE PLOTTED

```

230 K2=0
240 K9=K9+1
250 K2=0
260 F1=FLOISOC*
270 GOSUB 4045
280 INPUT Q2;A:
290 IF A=2 AND K2=0 THEN 1000
300 IF A=2 THEN 10200
310 INPUT Q2;H:
320 INPUT Q2;H:

```

```

208 INPUT Q2:04
290 INPUT Q2:03,C,P(25),P(26),P(28)
300 N2=K2+1
310 IF N2=K2 THEN 321
320 GO TO 270
321 F5=0
322 IF P(20)=4 THEN 330
323 PRINT "IS THIS THE FIRST STAT RUN FOR TODAY? (Y/N)"
324 INPUT A4
325 IF A4=Y THEN 330
326 F5=1

++1++

330 REM* SET X LABEL
350 N4=SEG(D4,4,2)
355 REM* SET X LABEL
360 A4=SEG(D4,1,2)
361 A=VAL(A4)
362 G=(A-1)*9+1
363 X4=SEG(C4,A,9)
370 REM* GET HISTORY Q
372 RESTORE 381
375 F4="00"
380 GOSUB 4045
381 DATA 0,0,0,0
382 READ F1,F2,F3,F4
390 INPUT Q2:01,D7,X9,Y9,M9,U9,L9,Y8,M8,U8,L8
395 INPUT Q2:08,W9,F1,F2,F3,F4
396 FOR I=1 TO 31
397 X9(I)=1
398 NEXT I
400 D8=VAL(N4)
415 N1=P(28)+F5*N1
416 F1=0
417 F3=0
420 REM* N9(D8)=(M9(D7)*(K-1)+P(25))/K
430 REM* M8(D8)=(L3(D7)*(K-1)+P(26))/K
440 Y9(D8)=P(25)+F5*Y9(D8)
450 Y8(D8)=P(26)+F5*Y8(D8)
460 IF K1=4 THEN 551
461 PRINT "NO OC PLOT WILL BE PRODUCED FOR 'H4' AT LEVEL 'J4'."
462 PRINT "SINCE FOUR OC DATA POINTS ARE NOT YET AVAILABLE."
463 GO TO 1010
465 GO TO 551
470 U2=U2(D8)+L1(N1)*M8(D8)
480 L2=L2(D8)+M1(N1)*M8(D8)
490 U3=U3(D8)+L1(N1)*M8(D8)
500 L3=L3(D8)+M1(N1)*M8(D8)
510 GO TO 551
520 U7(U8)=M9(D8)+L3/SQR(K1)*M8(D8)
530 L9(L8)=M9(D8)+L3/SQR(K1)*M8(D8)
540 U5(U8)=L13/SQR(2*N1)*M8(D8)
550 L5(L8)=L13/SQR(2*N1)*M8(D8)

```

```

1113111 551 REM* SET WARNING FLAG
552 IF NOT(Y9(08)>09(08) OR Y9(08)<L9(08)) THEN 554
553 F1=1
1111111 554 IF NOT(Y8(08)>08(08) OR Y8(08)<L8(08)) THEN 556
555 F3=1
1111111 556 REM* ZERO OUT DATA FROM D7 TO D8
557 IF D7=00 THEN 573
558 I=07
560 IF D8=D7 THEN 562
561 I=0
562 I=I+1
563 IF I=08 THEN 573
564 Y9(I)=1
568 Y8(I)=1
572 GO TO 562
1112111 573 REM*
620 REM* UPDATE WARNING
621 F2=0
622 F4=0
625 FOR I=6 TO 1 STEP -1
630 W8(I+1)=W8(I)
640 W9(I+1)=W9(I)
650 NEXT I
650 IF Y9(08)>W9(08) THEN 690
670 W9(I)=1
680 GO TO 700
1111111 690 W9(I)=1
1111111 700 IF Y8(08)>W8(08) THEN 730
710 W8(I)=1
720 GO TO 740
1111111 730 W8(I)=1
1111111 740 FOR I=1 TO 7
750 F2=F2+W9(I)
760 F4=F4+W8(I)
770 NEXT I
771 F2=ABS(F2)
772 F4=ABS(F4)
780 REM* PLOT OC CHARTS
790 E4=ACCURACY CONTROL CHART FOR *BN*
810 Y5=0
820 W4=0
900 Y1=L9
910 Y2=M9
920 Y3=U9
930 Y4=0
940 Y5=0
950 IF W4(F1=1 OR F2=7) THEN 950
950 W4=WARNING - PROCESS IS OUT OF CONTROL
1111111 950 REM* COSUB PLOT

```

```

956 PRINT "ENDJ"
960 IF U3=10 THEN 967
961 PRINT "DO YOU WANT A 4662 PLOT? (Y/N)"
962 INPUT M$
963 M$=UC(M$)
964 IF M$="Y" THEN 967
965 U3=10
966 GOSUB 1775
967 U3=12
970 E1="PRECISION CONTROL CHART FOR "M$
980 M1=" "
990 Y=YB
1000 Y1=L9
1010 Y2=H8
1020 Y3=H8
1025 D=D0
1030 IF NOT(F3=1) THEN 1050
1040 M$="DARNING - PROCESS IS OUT OF CONTROL"
1050 REM GOSUB PLOT
1055 GOSUB 1775
1060 PRINT "ENDJ"
1060 IF U3=10 THEN 1067
1061 PRINT "DO YOU WANT A 4662 PLOT? (Y/N)"
1062 INPUT M$
1063 M$=UC(M$)
1064 IF M$="Y" THEN 1067
1065 U3=10
1066 GOSUB 1775
1067 U3=12
1070 REM UPDATE HISTORY 0 FILE
1080 F1="H0"
1090 GOSUB 4945
1100 PRINT "H0:1,H8,X9,Y9,M9,U9,L9,Y8,M8,U8,L8"
1110 PRINT "H0:U8,W9,F1,F2,F3,F4"
1115 PRINT "H0:2:"
1120 GO TO 230
1125 PER4
1130 REM
1140 REM
1150 REM
1160 REM
1175 DIM X$(60),Y$(60)
1185 DIM X$(31),Y$(31),I(24)
1190 PAGE
1200 REM HEIGHT OF SPACE
1205 H0=2.82
1215 REM HEIGHT OF CHARACTER
1225 H1=1.63
1235 REM WIDTH OF SPACE

```

```

2085 H2=1.79
2095 REM WIDTH OF CHARACTER
2105 H3=1.55
2115 REM HEIGHT OF TIC MARK
2125 H4=1
2135 REM WIDTH OF TIC MARK
2145 H5=2
2155 VIEWPORT 0,130,0,100
2165 WINDOW 0,130,0,100
2175 REM X MIN
2185 T(4)=15
2195 REM X DOMAIN
2205 T(5)=105
2215 REM Y MIN
2225 T(14)=10
2235 REM Y RANGE
2245 T(15)=75
2255 REM BOX GRAPH
2265 MOVE GUS:T(4),T(14)
2275 DRAW GUS:T(4),T(14),T(15)
2285 DRAW GUS:T(4),T(15),T(14),T(15)
2295 DRAW GUS:T(4),T(15),T(14)
2305 DRAW GUS:T(4),T(14)
2315 REM MAKE TIC MARKS ON X AXIS
2325 FOR I=0 TO 34 STEP 2
2335 MOVE GUS:T(4)+I*3,T(14)+H4/2
2345 DRAW GUS:I,-H4
2355 REM LABEL THE MARK
2365 MOVE GUS:-H2,-H0
2375 IF I=0 OR I=31 THEN 2405
2385 IF I=10 THEN 2395
2395 MOVE GUS:-H2,0
2405 PRINT GUS:I
2415 NEXT I
2415 REM PRINT OUT WARNING
2420 A=LEN(W3)

```

```

2423 IF A2 THEN 2535
2425 X0=T(4)+(T(5)-LEN(US)*H2)/2
2435 Y0=96
2445 MOVE @3:X0,Y0
2455 PRINT @3:4;
2465 REM DRAW @3:BOX AROUND WARNING
2475 MOVE @3:X0-H2/2,Y0-H0/3
2485 DRAW @3:0,5,H0/3
2495 DRAW @3:(LEN(W)+1)*H2/0
2505 DRAW @3:0,-5,H0/3
2515 DRAW @3:(-LEN(W)+1)*H2/0
2525 REM WRITE TITLE
++1++
2535 Y0=Y0-5
2545 X0=T(4)+(T(5)-LEN(E)*H2)/2
2555 MOVE @3:X0,Y0
2565 PRINT @3:1;
2575 Y0=Y0-3
2585 X0=T(4)+(T(5)-LEN(J)*H2)/2
2595 MOVE @3:X0,Y0
2605 PRINT @3:1;
2615 REM PRINT X AXIS LABEL
2625 Y0=T(14)-3*H0
2635 X0=T(4)+(T(5)-LEN(X)*H2)/2
2645 MOVE @3:X0,Y0
2655 PRINT @3:1;
2665 REM Y AXIS LABEL
2675 X0=3
2685 Y0=T(14)+(T(15)+LEN(Y)*H0)/2
2695 MOVE @3:X0,Y0
2705 FOR I=1 TO LEN(Y) STEP 1
2715 Z4=SEG(Y,I,1)
2725 PRINT @3:Z4;"JL"
2735 NEXT I
2745 REM END OF PRELIMINARIES NOW DO PLOTS
2746 Y4=Y1(1)
2747 Y5=Y3(1)
2748 I=(Y5-Y4)/2
2749 @0=Y4-I
2750 @1=Y5+I
2751 GO TO 2780
2755 REM SET UP STUFF
2756 Y4=100000
2757 Y5=100000
2758 FOR I=1 TO 31
2759 IF Y(I)=0 THEN 2761
2760 Y4=Y4 MIN Y(I)
2761 IF Y(I)>0 THEN 2763
2762 Y4=Y4 MIN Y(I)
++1++

```



```

+++++ 2743 YS=Y5 MAX Y(I)
2764 YS=Y5 MAX Y3(I)
2765 NEXT I

2770 REM IN HERE GOES CODE TO PICK NEAT ENDPOINTS FOR Y-AXIS

+++++ 2780 VIEWPORT I(4),I(4)+I(5),Y(14),Y(14)+Y(15)
2781 WINDOW 0,35,00,01
2782 FOR I=1 TO 5 STEP 1
2783 IF Y(I)=0 THEN 2845
2784 IF Y(I)=01 THEN 9400
2785 IF Y(I)=00 THEN 9500
2786 MOVE QUS:X(I),Y(I)
2787 GOSUB 3185
2788 NEXT I

+++++ 2845 VIEWPORT I(4),I(4)+I(5),0,Y(15)
2847 WINDOW 0,35,00,01
2848 MOVE QUS:0,00
2849 G=SEG(1,1,3)
2850 PRINT QUS:G;" = "Y(0)
2851 VIEWPORT I(4),I(4)+I(5),I(14),Y(14)+Y(15)
2852 WINDOW 0,35,00,01
2853 GOSUB 9000
2854 MOVE QUS:0,Y1(I)
2855 DRAW QUS:35,Y1(I)
2856 MOVE QUS:35,Y3(I)
2857 DRAW QUS:0,Y3(I)
2858 MOVE QUS:0,Y2(I)
2859 DRAW QUS:35,Y2(I)
2860 MOVE QUS:0,Y2(I)
2861 DRAW QUS:35,Y2(I)
2862 RETURN
2863 MOVE QUS:0,Y1(I)
2864 FOR I=1 TO 5 STEP 1
2865 IF Y(I)=0 THEN 2900
2866 DRAW QUS:X(I),Y1(I)
2867 DRAW QUS:X(I),Y3(I)
2868 GO TO 2705
2869 MOVE QUS:X(I+1),Y(I+1)
2870 NEXT I
2871 DRAW QUS:X(0),Y1(0)
2872 FOR I=1 TO 4
2873 MOVE QUS:0,5,0
2874 DRAW QUS:0,5,0
2875 NEXT I

2885 REM DO Y3

2886 MOVE QUS:0,Y3(I)
2887 FOR I=1 TO 5 STEP 1
2888 IF Y(I)=0 THEN 3015
2889 DRAW QUS:X(I),Y3(I)
2890 GO TO 3020
2891 MOVE QUS:X(I+1),Y3(I+1)
2892 NEXT I
2893 DRAW QUS:X(0),Y3(0)
2894 FOR I=1 TO 4 STEP 1
2895 MOVE QUS:0,5,0
2896 DRAW QUS:0,5,0
2897 NEXT I

```

3075 REM Y2

3085 MOVE @U3:0,Y2(1)
3095 FOR I=1 TO 8-1 STEP 1
3100 IF Y2(1) = 0 THEN 3125
3105 KDRAW @U3:0.5,0
3115 KMOVE @U3:0.5,Y2(I+1)-Y2(1)
3120 GO TO 3130
3125 MOVE @U3:X(I+1),Y2(I+1)
3130 NEXT I
3135 FOR I=1 TO 5
3145 KDRAW @U3:0.5,0
3155 KMOVE @U3:0.5,0
3165 NEXT I
3175 RETURN

+++
+++

---1--- 3105 REM THIS CENTERS DIAMONDS

3200 KMOVE @U3:0,-0.01*(01-00)
3205 KDRAW @U3:0.35,0.01*(01-00)
3210 KDRAW @U3:-0.35,0.01*(01-00)
3215 KDRAW @U3:-0.35,-0.01*(01-00)
3220 KDRAW @U3:0.35,-0.01*(01-00)
3225 RETURN
3235 DRAW @U3:X(D),Y(D)

---3--- 4845 REM FIND/OPEN
4855 REM (F,N9)

4860 FIND @U2:0
4865 FIND @U2:1
4875 INPUT @U2:1\$
4885 J1=SEG(B\$+1,3)
4895 IF J1<>"105" THEN 5175
4905 INPUT @U2:6:4
4915 IF A=1 THEN 4995
4925 INPUT @U2:1\$
4935 DIM J1(10)
4945 J1=SEG(B\$+4,10)
4955 F=LEN(F\$)
4965 DIM J\$(F)
4975 IF J1=F\$ THEN 5035
4985 GO TO 4905

+++
+++

+++1+++ 4995 REM

5005 PRINT "ERROR *** FILE:;F\$; NOT FOUND"
5015 CLOSE
5025 FIND 1
5035 DIM
5045 J1=SEG(B\$+1,3)
5055 J2=SEG(J\$)
5060 FIND @U2:0
5065 DIM @U2:1\$
5075 INPUT @U2:1\$
5075 DIM J\$(10)

+++
+++

```

5085 J=SEG(D,1,10)
5095 F=LEN(F)
5105 DIM J*(F)
5115 IF J<>F THEN 5135
5125 RETURN
+++1+++ 5135 PRINT "FILE DOES NOT MATCH INTERNAL NAME"
5145 PRINT "INDEX NAME ="F;"INTERNAL NAME ="J;"
5155 PRINT Q2/2;
5165 FIND 1
5175 OLD
+++1+++ 5175 PRINT "DATA TAPE IN EXTERNAL TAPE UNIT IS NOT A IDS DATA TAPE"
5185 PRINT Q2/2;
5195 FIND 1
5196 OLD

5405 REM* FLOT OBSERVED DATA
5415 GOSUB 3395
4715-REM*DRAW MU

6720 SET DEGREES
6730 VIEWPORT 0,130,0,100
6740 WINDOW 0,130,0,100

6750 REM*HO - PRINTED LINE HEIGHT
6760 REM*HI - PRINTED CHARACTER HEIGHT
6770 REM*W2 - WIDTH OF SPACE
6780 REM*W3 - WIDTH OF A CHARACTER

6790 SO=15
6800 HO=2.82
6810 HI=1.48
6820 W2=1.79
6830 W3=1.55
6840 MOVE EU3:XO+HO/20,YO+H2/20
6850 KDRAW EU3:HI/50,HI*5/SO
6860 FOR I=1 TO SO/2
6870 KDRAW EU3:O,HI/SO
6880 NEXT I
6890 FOR I=1 TO SO/2
6900 KDRAW EU3:O,-HI/SO
6910 NEXT I
6920 FOR I=0 TO 180 STEP SO*3/2
6930 ROTATE I+270
6940 KDRAW EU3:HI/50,0
6950 NEXT I
6960 FOR I=1 TO SO/2
6970 KDRAW EU2:HI/SO,0
6980 NEXT I
6990 FOR I=1 TO SO/2
7000 KDRAW EU3:-HI/SO,0
7010 NEXT I
7020 FOR I=270 TO 360 STEP SO/2*3
7030 ROTATE I
7040 KDRAW EU3:HI/50,0
7050 NEXT I
7060 MOVE EU3:XO+H2*1.1,YO+O.1*HO
7070 RETURN

```

7999 REMDRAW RHO

8000 SET DEGREES

8010 VIEWPORT 0,130,0,100

8020 WINDOW 0,130,0,100

8030 REM#10 - PRINTED LINE HEIGHT

8040 REM#11 - PRINTED CHARACTER HEIGHT

8050 REM#12 - WIDTH OF SPACE

8060 REM#13 - WIDTH OF A CHARACTER

8070 MOVE QUS1X0-H1/2,Y0

8080 FOR I=-95 TO 265 STEP 15

8090 ROTATE I

8100 DRAW QUS1H3/SO*1.3,0

8110 NEXT I

8120 ROTATE -5

8130 DRAW QUS1O,-10*H3/SO

8140 MOVE QUS1H3,0

8150 RETURN

8299 REM ROUTINE TO LABEL Y AXIS

----- 9000 REM

9070 L\$=STR(V1(1))

9080 GOSUB 61600

9090 MOVE QUS1O,Y1(1)

9100 FOR I=1 TO 60*1

9110 PRINT QUS1H":I"

9120 NEXT I

9130 PRINT QUS1L\$

9140 L\$=STR(V2(1))

9150 GOSUB 61600

9160 MOVE QUS1O,Y2(1)

9170 FOR I=1 TO 60*1

9180 PRINT QUS1H":I"

9190 NEXT I

9200 PRINT QUS1L\$

9210 L\$=STR(V3(1))

9220 GOSUB 61600

9230 MOVE QUS1O,Y3(1)

9240 FOR I=1 TO 60*1

9250 PRINT QUS1H":I"

9260 NEXT I

9270 PRINT QUS1L\$

9280 RETURN

+++++ 9400 REM ROUTINE TO DRAW ARROW POINTING UP

9410 MOVE QUS1X(1),01

9420 PRINT QUS1J":I"

9430 GO TO 2845

+++++ 9500 REM ROUTINE TO DRAW UPSIDE DOWN ARROW

9510 MOVE QUS1X(1),00

9520 L\$=CHR(127)

9530 PRINT QUS1L\$

```

9550 GO TO 2845
+++1+++ 10000 PRINT "NO DC PLOTS ARE AVAILABLE FOR PLOTTING"
10050 FIND 1
10051 OLD
+++1+++ 10100 PRINT "ERROR WITH HISTORY TAPE FILE NUMBER 2"
+++1+++ 10200 FIND 1
10201 OLD

```

```

---3--- 61600 REM ROUTINE TO PRINT NUMBERS TO 3 DECIMAL PLACES
61610 REMPL$(LF$) IN CONTAINING NUMBER IN CHARACTER FORM THAT
61620 REM IS TO BE PRINTED OUT TO 3 DECIMAL PLACES
61630 REM RESULTANT STRING IS PASSED BACK IN L$
61640 REM FORMAT OF RESULT SD,000 WITH LENGTH OF 6
61650 Q0=F05(L$,"E",1)
61660 IF Q0<>0 THEN 61700
61670 L$=SEG(L$,1,6)
61680 Q0=6
61690 RETURN

```

```

+++1+++ 61700 REM NUMBER IS IN SCIENTIFIC NOTATION
61710 K$=SEG(L$,Q0+1,4)
61720 Q0=VAL(K$)
61730 IF Q0>0 THEN 61880
61740 IF Q0>-4 THEN 61780
61750 L$=" 0.000"
61760 Q0=6
61770 RETURN
61780 N$=SEG(L$,1,1)
61790 K$=K$+N$+Q0
61800 GO TO -00 OF 61820,61810,61800
61810 K$=K$+Q0
61820 Q0=6-LEN(K$)
61830 L$=SEG(L$,2,Q0+1)
61840 L$=REP(" ",2,1)
61850 L$=N$+L$
61860 Q0=6
61870 RETURN

```

```

+++1+++ 61880 REM SECTION TO PRINT OUT $>0
61890 L$=SEG(L$,1,5)
61900 L$=L$+E
61910 L$=L$+K$
61920 Q0=6-LEN(K$)
61930 RETURN

```

THE FOLLOWING LINE NUMBERS ARE BRANCHED TO BUT DO NOT EXIST IN THIS TAPE FILE (# 4)
 61610 BEFORE THE LINE NUMBER INDICATES IT IS BRANCHED TO AS A SUBROUTINE (VIA A "GOSUB" OR "ON")

Programmed by:
Computer Sciences Corporation,
Data Systems Laboratory,
NATIONAL SPACE TECHNOLOGY LABORATORY,
NSTL Station, Mississippi 39529.

Version: 08 - Production

March 10, 1982

CONTINUE

1. IS NOT EQUAL TO TAPE LABEL. 1A8
31007 (Y/N).

E100

21

1044

```

** error ** this is not the correct tape.
PRESS 'RETURN' TO CONTINUE.

```

ENTER USER-ID:

ENTER DATE (dd/mm/yy):

INSERT IDS HISTORY TAPE IN EXTERNAL TAPE UNIT # 4924.

*** ENTER EXTERNAL LABEL ON HISTORY TAPE.***

0:00

1121

(七)

人: 277

(A)

41

02:0

64-2575

7:30

Discussion

2370 OLD

FILE # 6

10 U2=11
12 DATA 56
14 DATA 0.25,0.161
15 DATA 0.25,0.144
16 DATA 1.6,1.387
17 DATA 1.6,1.352
18 DATA 2.5,2.026
19 DATA 2.5,2.055
20 DATA 5.3,956
21 DATA 5.4,01
22 DATA 0.0,049
23 DATA 0.0,049
24 DATA 0.1,0.104
25 DATA 0.1,0.112
26 DATA 1.0,876
27 DATA 1.0,865
28 DATA 1.0,875
29 DATA 1.0,856
30 DATA 1.0,825
31 DATA 1.0,864
32 DATA 0.1,0.109
33 DATA 0.1,0.117
34 DATA 0.0,022
35 DATA 0.0,022
36 DATA 5.4,091
37 DATA 5.3,982
38 DATA 2.5,2.068
39 DATA 2.5,2.01
40 DATA 1.6,1.417
41 DATA 1.6,1.393
42 DATA 0.25,0.215
43 DATA 0.25,0.207
44 DATA 0.25,0.152
45 DATA 0.25,0.135
46 DATA 1.6,1.433
47 DATA 1.6,1.457
48 DATA 2.5,2.052
49 DATA 2.5,2.022
50 DATA 5.4
51 DATA 5.3,923
52 DATA 0.0,018
53 DATA 0.0,018
54 DATA 0.1,0.068
55 DATA 0.1,0.068
56 DATA 1.0,868
57 DATA 1.0,857
58 DATA 0.1,0.0986
59 DATA 0.1,0.107
60 DATA 0.0,017
61 DATA 0.0,019
62 DATA 5.4,059
63 DATA 5.4,005
64 DATA 2.5,2.02
65 DATA 2.5,2.005
66 DATA 1.6,1.411
67 DATA 1.6,1.363
68 DATA 0.25,0.205
69 DATA 0.25,0.205


```

100 PRINT "ENTER DATE (mm/dd/yy)"
110 INPUT B$
120 PRINT "ENTER HISTORY LABEL (ID$xxxxxx)"
130 INPUT C$
140 DIM P(34),X(31),W(7),M9(31),H8(31),O0(31),O1(31),O2(31),O3(31)
150 F=0
160 P(6)=1
170 P(3)=1
180 P(29)=1
190 W=0
200 Z=0
210 M7=1
220 N=0
230 X4=0
240 PRINT "INSERT NEW HISTORY TAPE IN UNIT "IU2
250 PRINT "PRESS 'RETURN' TO CONTINUE "
260 INPUT Z$
270 FIND O02:0
280 MARK O02:1,3000
290 FIND O02:1
300 C=C+X4
310 PRINT O02:0$
320 PRINT O02:1"002SYSTEM****P"
330 PRINT O02:1"003PLOTFILES**P"
340 PRINT O02:1"004PLOTSQC****P"
350 PRINT O02:1"005HRCGR*****P"
360 PRINT O02:1"006HRCRQL1.60P"
370 PRINT O02:1"007HRCRQF1.60P"
1000 PRINT O02:2:
1010 FIND O02:2
1020 MARK O02:1,1000
1030 FIND O02:2
1040 PRINT O02:1"SYSTEM****P"
1050 FIND O02:3
1060 MARK O02:1,5000
1070 FIND O02:3
1080 PRINT O02:1"PLOTFILES**P"
1090 FIND O02:4
1100 MARK O02:1,5000
1110 FIND O02:4
1120 PRINT O02:1"PLOTSQC****P"
2000 FIND O02:5
2010 MARK O02:3,5000
2020 F=0
2030 M1=0
2040 P(7)=1
2050 READ P(8)
2060 DIM X(P(8)),Y(P(8))
2070 FOR I=1 TO P(8)
2080 READ X(I),Y(I)
2090 NEXT I
2100 M1=0
2110 M2=0
2120 M3=0
2130 M4=0
2140 M5=0
2150 M6=0
2160 M0=1
2170 FOR I=1 TO P(8)
2180 M1=M1+X(I)*M0

```

```

2190 M2=M2*(I)*W0
2200 M3=M3*(I)*X(I)*W0
2210 M4=M4*(I)*Y(I)*W0
2220 M5=M5*(I)*X(I)*W0
2230 W1=W1+W0
2240 NEXT I
2250 C=W1*M3-M1^2
2260 F(10)=W1/C
2270 F(11)=M1/C
2280 F(12)=M3/C
2290 P(2)=(W1*M5-M1*M2)/(W1*M3-M1^2)
2300 P(1)=(M2-F(2)*M1)/W1
2310 P(4)=P(1)
2320 F(5)=P(2)
2330 I=0
2340 FOR I=1 TO P(8)
2350 B=U*(Y(I)-P(1)-P(2)*X(I))^2
2360 NEXT I
2370 P(23)=1-B/(M4-M2^2/P(8))
2380 P(3)=1
2390 F(6)=D/(F(8)-2)
2400 P(9)=1
2410 P(29)=1
2420 P(27)=F(6)
2430 FIND GU2:5
2440 PRINT GU2:5*****P
2450 PRINT GU2:5,F
2460 PRINT GU2:2:
2470 FIND GU2:6

```

PRINT "ENTER QL HISTORY FOR 1.6
PRINT "ENTER MEAN(OR CENTRAL STANDARD) FOR 1.6

PRINT "ENTER S.D.(OR STANDARD) FOR 1.6

PRINT "ENTER LOWER LIMIT.FOR ACCURACY.

PRINT "ENTER UPPER LIMIT FOR ACCURACY.

PRINT "ENTER LOWER LIMIT FOR PRECISION.

PRINT "ENTER UPPER LIMIT FOR PRECISION"

```

2480 REM
2490 REM
2500 M1=1.6
2510 REM
2520 M2=0.032
2530 REM
2540 I=1.54
2550 O0=I
2560 REM
2570 I=1.65
2580 O1=I
2590 REM
2600 I=0
2610 O2=I
2620 REM
2630 I=0.073
2640 O3=I
2650 O7=3
2660 K=0

```

```

2670 XO=O
2680 M=O
2690 Z=O
2700 M9=H1
2710 M8=M2
2720 PRINT
2730 PRINT
2740 FIND
2750 REM
2760 REM
2770 M1=1.6
2780 REM
2790 M2=0.053
2800 REM
2810 I=1.5
2820 O0=1
2830 REM
2840 I=1.7
2850 O1=1
2860 REM
2870 I=O
2880 O2=1
2890 REM
2900 I=O.12
2910 O3=1
2920 M9=H1
2930 M8=M2
2940 PRINT
2950 PRINT
2960 FIND
2970 CLOSE
2980 OLD
3000 REM END OF PROGRAM

```

FILE # 7

```

100 INIT
110 PRINT 032:26:0

120 REM
130 REM THIS PROGRAM IS SUPPOSED TO UPDATE THE HISTORY FILE BETWEEN
140 REM EACH DAILY RUN. IT IS SUPPOSED TO LEAVE IN THE INFORMATION
150 REM ABOUT PREVIOUS DAYS SO THAT THE QC PLOTS WILL SHOW DAILY
160 REM PROGRESS. IT IS SUPPOSED TO REMOVE THE INDIVIDUAL PLOT FILES
170 REM SO THAT A "FRESH" HISTORY TAPE EACH DAY.

180 REM
190 REM DATE: 05/04/81
200 REM AUTHOR: COMPUTER SCIENCES CORPORATION
210 REM ISAAC WILLY TRAXLER
220 REM NSTL STATION, MS
230 REM
240 REM
250 REM DO SOME PRELIMINARIES

260 UI=33
270 PAGE
280 PRINT " BEGIN PROGRAM TO UPDATE HISTORY TAPE"
290 PRINT " INSERT HISTORY TAPE INTO INTERNAL TAPE DRIVE"
300 PRINT " MAKE SURE WRITE PROTECT IS NOT ON SAFE"
310 PRINT " PRESS HOME PAGE TO START PROGRAM"
320 PRINT "END"
330 PRINT " BEGIN PROCESSING"

340 REM UI - DEVICE NUMBER OF INTERNAL TAPE DRIVE
350 REM A1 - LINE 1 OF FILE 1
360 REM A2 - LINE 2 OF FILE 1
370 REM A3 - LINE 3 OF FILE 1
380 REM A4 - LINE 4 OF FILE 1
390 REM A5 - LINE 5 OF FILE 1
400 REM A6 - LINE 6 OF FILE 1
410 REM A7 - LINE 7 OF FILE 1
420 REM I - USED AS A TEMPORARY INDEX VARIABLE
430 REM

440 REM *** SECTION TO UPDATE FILE 1 ***

450 FIND 1
460 INPUT CUI:A$
470 INPUT CUI:B$
480 INPUT CUI:C$
490 INPUT CUI:D$
500 INPUT CUI:E$
510 INPUT CUI:F$
520 INPUT CUI:G$
530 CLOSE
540 FIND 1
550 PRINT CUI:A$
560 PRINT CUI:B$
570 PRINT CUI:C$
580 PRINT CUI:D$
590 PRINT CUI:E$
600 PRINT CUI:F$
610 PRINT CUI:G$
620 CLOSE

```

```

630 REM END OF FILE 1 SECTION
640 REM PUT TAPE AT BEGINNING OF FILE
650 FIND 0
660 REM *** SECTION FOR FILE 2 ***
670 FIND 2
680 PRINT @U1:":SYSTEM****"
690 CLOSE
700 REM *** END OF FILE 2 SECTION ***
710 REM FIND BEGINNING OF TAPE
720 FIND 0
730 REM *** SECTION FOR FILE 3 ***
740 FIND 3
750 PRINT @U1:":PLOTFILES*"
760 CLOSE
770 REM *** END OF SECTION FOR FILE 3 ***
780 REM FIND BEGINNING OF TAPE
790 FIND 0
800 REM *** SECTION FOR FILE 4 ***
810 FIND 4
820 PRINT @U1:":PLOTSOC****"
830 CLOSE
840 PRINT
850 PRINT
860 PRINT
870 PRINT
880 PRINT
890 PRINT
900 PRINT "TAPE PROCESSING FINISHED"
910 PRINT "YOU MAY REMOVE THE TAPE NOW"
920 PRINT
930 PRINT "INSERT STATISTICS PROGRAM TAPE INTO INTERNAL TAPE DRIVE"
940 PRINT "PRESS 'HOME PAGE' TO CONTINUE"
950 PRINT "OKJ"
960 FIND 1
970 OLD
980 REM END OF PROGRAM

```

FILE * 8

```
2060 P=0
2065 W1=0
2072 F(7)=1
2090 READ P(9)
2090 DIM X(P(8)),Y(P(8))
2100 FOR I=1 TO P(8)
2120 READ X(I),Y(I)
2130 NEXT I
2140 H1=0
2150 H2=0
2160 H3=0
2170 H4=0
2180 H5=0
2185 W=0
2187 W0=1
2190 FOR I=1 TO P(8)
2200 M1=M1+X(I)*W0
2210 M2=M2+Y(I)*W0
2220 M3=M3+X(I)*X(I)*W0
2230 M4=M4+Y(I)*Y(I)*W0
2240 M5=M5+Y(I)*X(I)*W0
2245 W1=W1+W0
2250 NEXT I
2260 C=W1*M3-M1^2
2270 F(10)=W1/C
2280 F(11)=M1/C
2290 F(12)=M3/C
2300 F(2)=(W1*M5-H1*M2)/(W1*M3-M1^2)
2310 F(1)=(M2-P(2)*H1)/W1
2320 F(4)=F(1)
2330 F(5)=F(2)
2340 B=0
2350 FOR I=1 TO P(8)
2360 D=D+(Y(I)-P(1)-P(2)*X(I))^2
2370 NEXT I
2380 F(23)=1-D/(M4-M2^2/P(8))
2390 P(3)=2
2400 P(6)=D/(P(8)-2)
2410 P(9)=1
2420 F(29)=1
2430 F(27)=P(6)
```

FILE * 9

```

10 U2=11
100 PRINT "ENTER DATE (MM/DD/YY)"
110 INPUT M
120 PRINT "ENTER HISTORY LABEL (IDSRX...X)"
130 INPUT C$
140 DIM P(34),X(31),W(7),H9(31),M8(31),O0(31),O1(31),O2(31),O3(31)
150 F=0
155 F(6)=1
170 F(3)=1
180 F(29)=1
190 W=0
200 Z=0
210 D7=1
220 N=0
230 X4=0
240 PRINT "INSERT NEW HISTORY TAPE IN UNIT *U2
250 PRINT "PRESS 'RETURN' TO CONTINUE"
260 INPUT Z$
270 FIND W2:0
280 MARK W2:1,3000
290 FIND W2:1
300 C=C+384
310 PRINT W2:C$
320 PRINT W2:"002SYSTEM****"
330 PRINT W2:"003PLOTFILES$P"
340 PRINT W2:"004PLOT50C****"
350 PRINT W2:"005HROG*****"
360 PRINT W2:"006HROGWL.108P"
370 PRINT W2:"007HROGWL.216P"
1000 PRINT W2:Z$
1010 FIND W2:2
1020 MARK W2:1,1000
1030 FIND W2:2
1040 PRINT W2:"SYSTEM****"
1050 FIND W2:3
1060 MARK W2:1,5000
1070 FIND W2:3
1080 PRINT W2:"PLOTFILES*"
1090 FIND W2:4
1100 MARK W2:1,5000
1110 FIND W2:4
1120 PRINT W2:"PLOT50C****"
2000 FIND W2:5
2010 MARK W2:3,5000
2020 F=0
2030 U1=0
2040 F(7)=1
2050 READ P(8)
2060 DIM X(P(8)),Y(P(8))
2070 FOR I=1 TO P(8)
2080 READ X(I),Y(I)
2090 H,X I
2100 H1=0
2110 H2=0
2120 H3=0
2130 H4=0

```

```

2160 W0=1
2170 FOR I=1 TO P(8)
2180 M1=M1+X(I)*W0
2190 M2=M2+Y(I)*W0
2200 M3=M3+X(I)*X(I)*W0
2210 M4=M4+Y(I)*Y(I)*W0
2220 M5=M5+Y(I)*X(I)*W0
2230 W1=W1+W0
2240 NEXT I
2250 C=W1*M3-M1^2
2260 F(10)=W1/C
2270 P(11)=M1/C
2280 P(12)=M3/C
2290 P(2)=(W1*M5-M1*M2)/(W1*M3-M1^2)
2300 P(1)=(M2-P(2)*M1)/W1
2310 P(4)=P(1)
2320 P(5)=P(2)
2330 B=0
2340 FOR I=1 TO P(8)
2350 B=B+(Y(I)-P(1)-P(2)*X(I))^2
2360 NEXT I
2370 P(23)=1-B/(M4-M2^2/P(8))
2380 P(3)=2
2390 P(6)=B/(P(8)-2)
2400 P(9)=1
2410 P(29)=1
2420 P(27)=P(6)
2430 FIND Q215
2440 PRINT Q21:HRGU*****P
2450 PRINT Q21:B*,P
2460 PRINT Q21:2:
2470 FIND Q216
2480 PRINT "ENTER OL HISTORY FOR .108"
2490 PRINT "ENTER MEAN(OR CENTRAL STANDARD) FOR .108"
2500 INPUT M1
2510 PRINT "ENTER S.D.(OR STANDARD) FOR .108"
2520 INPUT M2
2530 PRINT "ENTER LOWER LIMIT FOR ACCURACY"
2540 INPUT I
2550 Q0=I
2560 PRINT "ENTER UPPER LIMIT FOR ACCURACY"
2570 INPUT I
2580 Q1=I
2590 PRINT "ENTER LOWER LIMIT FOR PRECISION"
2600 INPUT I
2610 Q2=I
2620 PRINT "ENTER UPPER LIMIT FOR PRECISION"
2630 INPUT I
2640 Q3=I
2650 D7=31
2660 N=0
2670 X0=0
2680 Y=0
2690 Z=0
2700 M9=M1
2710 M3=M2
2720 PRINT Q21:H0GR0L.108*
2730 PRINT Q21:K,D7,X0,X0,M9,01,00,X0,M9,03,02,W,M,K,K,K
2740 FIND Q217
2750 PRINT "ENTER OL HISTORY FOR .216"

```



```

2760 PRINT "ENTER MEAN (OR STANDARD) FOR .216"
2770 INPUT M1
2780 PRINT "ENTER S.D.(OR STANDARD) FOR .216"
2790 INPUT M2
2800 PRINT "ENTER LOWER LIMIT FOR ACCURACY"
2810 INPUT L
2820 M1=M1-L
2830 PRINT "ENTER UPPER LIMIT FOR ACCURACY"
2840 INPUT U
2850 M1=M1+U
2860 PRINT "ENTER LOWER LIMIT FOR PRECISION"
2870 INPUT L
2880 M1=M1-L
2890 PRINT "ENTER UPPER LIMIT FOR PRECISION"
2900 INPUT U
2910 M1=M1+U
2920 M1=M1-L
2930 M1=M1+U
2940 PRINT "Q12: HQ000L.216**"
2950 PRINT "Q2:K,07,X0,X0,H9,01,00,X0,H8,03,02,H,W,K,K,K,K"
2960 PRINT "Q3:2:"
2970 CLOSE
2980 FIND 1
2990 OLD

```

```

3000 REM END OF PROGRAM

```

FILE # 10

```

10 U2=11
12 DATA 5
14 DATA 0.0.05321
16 DATA 0.1.0.202791
18 DATA 0.8.0.774289
20 DATA 1.3.1.355521
22 DATA 4.1.4.237828
24 DATA 0.0.158099
100 PRINT "ENTER DATE (mm/dd/yy)"
110 INPUT M$
120 PRINT "ENTER HISTORY LABEL (IDSxx..x)"
130 INPUT C$
140 DIM P(34),X0(31),M(7),M9(31),M8(31),00(31),01(31),02(31),03(31)
150 P=0
160 P(6)=1
170 P(3)=1
180 P(29)=1
190 M=0
200 Z=0
210 U7=1
220 N=0
230 X4=0
240 PRINT "INSERT NEW HISTORY TAPE IN UNIT #102"
250 PRINT "PRESS 'RETURN' TO CONTINUE"
260 INPUT Z$
270 FIND Q02:0
280 MARK Q02:1,3000
290 FIND Q02:1
300 C$=C$SR4
310 PRINT Q02:0$
320 PRINT Q02:"002SYSTEM****"
330 PRINT Q02:"003PLOTFILES**"
340 PRINT Q02:"004PLOTSQC****"
350 PRINT Q02:"005HRCR*****"
360 PRINT Q02:"006HRCRL1.60P"
370 PRINT Q02:"007HRCRQF1.60P"
1000 PRINT Q02:2:
1010 FIND Q02:2
1020 MARK Q02:1,1000
1030 FIND Q02:2
1040 PRINT Q02:"SYSTEM****"
1050 FIND Q02:3
1060 MARK Q02:1,5000
1070 FIND Q02:3
1080 PRINT Q02:"PLOTFILES*"
1090 FIND Q02:4
1100 MARK Q02:1,5000
1110 FIND Q02:4
1120 PRINT Q02:"PLOTSQC***"
2000 FIND Q02:5
2010 MARK Q02:3,5000
2020 P=0
2030 M1=0
2040 P(7)=1
2050 READ P(0)
2060 DIM X(P(0)),Y(P(8))
2070 FOR I=1 TO P(8)
2080 READ X(I),Y(I)

```

```

2090 NEXT I
2100 M1=0
2110 M2=0
2120 M3=0
2130 M4=0
2140 M5=0
2150 W=0
2160 W0=1
2170 FOR I=1 TO P(8)
2180 M1=M1+X(I)*W0
2190 M2=M2+Y(I)*W0
2200 M3=M3+X(I)*X(I)*W0
2210 M4=M4+Y(I)*Y(I)*W0
2220 M5=M5+Y(I)*X(I)*W0
2230 W1=W1+W0
2240 NEXT I
2250 C=W1*M3-M1^2
2260 F(10)=W1/C
2270 F(11)=M1/C
2280 F(12)=M3/C
2290 F(2)=(W1*M5-M1*M2)/(W1*M3-M1^2)
2300 F(1)=(M2-P(2)*M1)/W1
2310 F(4)=F(1)
2320 P(5)=P(2)
2330 B=0
2340 FOR I=1 TO P(8)
2350 D=D+(Y(I)-P(1)-P(2)*X(I))^2
2360 NEXT I
2370 F(23)=1-D/(M4-M2^2/P(8))
2380 F(3)=2
2390 P(6)=D/(P(8)-2)
2400 F(9)=1
2410 F(29)=1
2420 P(27)=P(6)
2430 FIND @U2:5
2440 PRINT @U2:"HRGB*****P"
2450 PRINT @U2:M*,P
2460 PRINT @U2:2:
2470 FIND @U2:6

2480 REM
2490 REM
2500 M1=1.6
2510 REM
2520 M2=0.032
2530 REM
2540 I=1.54
2550 W0=1
2560 REM
2570 I=1.66
2580 W1=1
2590 REM
2600 REM

```

PRINT "ENTER OL HISTORY FOR 1.6
PRINT "ENTER MEAN(OR CENTRAL STANDARD) FOR 1.6

PRINT "ENTER S.D.(OR STANDARD) FOR 1.6

PRINT "ENTER LOWER LIMIT FOR ACCURACY"

PRINT "ENTER UPPER LIMIT FOR ACCURACY"

PRINT "ENTER LOWER LIMIT FOR 1.66
PRINT "ENTER UPPER LIMIT FOR 1.66

```

2600 I=0
2610 O2=I
2620 REM
2630 I=0.073
2640 O3=I
2650 O7=3I
2660 K=0
2670 X0=0
2680 U=0
2690 Z=0
2700 H9=M1
2710 H8=M2
2720 PRINT @U2;"H08R0L1.60*"
2730 PRINT @U2;K,D7,XC,X0,H9,O1,(,X0,H8,O3,O2,W,U,K,K,K,K
2740 FIND @U2;7
2750 REM
2760 PRINT "ENTER OP HISTON. FOR 1.60"
2770 REM
2780 PRINT "ENTER MEAN (OR STANL 'SD) FOR 1.60"
2790 M1=1.6
2800 REM
2810 PRINT "ENTER S.D.(OR STANDARD) FOR 1.60"
2820 M2=0.053
2830 REM
2840 PRINT "ENTER LOWER LIMIT FOR ACCURACY"
2850 I=1.5
2860 O0=I
2870 REM
2880 PRINT "ENTER UPPER LIMIT FOR ACCURACY"
2890 REM
2900 PRINT "ENTER LOWER LIMIT FOR PRECISION"
2910 I=0
2920 O2=I
2930 REM
2940 PRINT "ENTER UPPER LIMIT FOR PRECISION"
2950 I=0.12
2960 O3=I
2970 H9=M1
2980 H8=M2
2990 PRINT @U2;"H08R0P1.60*"
3000 PRINT @U2;K,D7,X0,X0,H9,O1,O0,X0,H8,O3,O2,W,U,K,K,K,K
3010 PRINT @U2;2;
3020 CLOSE
3030 FIND 1
3040 GLD
3050 REM END OF PROGRAM

```

FILE # 11

10 U2=11
12 DATA 56
14 DATA 0.25,0.141
15 DATA 0.25,0.144
16 DATA 1.6,1.387
17 DATA 1.6,1.352
18 DATA 2.5,2.026
19 DATA 2.5,2.055
20 DATA 5.3,956
21 DATA 5.4,01
22 DATA 0.0,0.049
23 DATA 0.0,0.047
24 DATA 0.1,0.104
25 DATA 0.1,0.112
26 DATA 1.0,0.876
27 DATA 1.0,0.865
28 DATA 1.0,0.875
29 DATA 1.0,0.856
30 DATA 1.0,0.825
31 DATA 1.0,0.826
32 DATA 0.1,0.109
33 DATA 0.1,0.117
34 DATA 0.0,0.022
35 DATA 0.0,0.022
36 DATA 5.4,091
37 DATA 5.3,982
38 DATA 2.5,2.060
39 DATA 2.5,2.01
40 DATA 1.6,1.417
41 DATA 1.6,1.393
42 DATA 0.25,0.215
43 DATA 0.25,0.207
44 DATA 0.25,0.152
45 DATA 0.25,0.135
46 DATA 1.6,1.433
47 DATA 1.6,1.457
48 DATA 2.5,2.052
49 DATA 2.5,2.022
50 DATA 5.4
51 DATA 5.3,923
52 DATA 0.0,0.018
53 DATA 0.0,0.018
54 DATA 0.1,0.068
55 DATA 0.1,0.038
56 DATA 1.0,0.848
57 DATA 1.0,0.857
58 DATA 0.1,0.0986
59 DATA 0.1,0.107
60 DATA 0.0,0.019
61 DATA 0.0,0.019
62 DATA 5.4,059
63 DATA 5.4,005
64 DATA 2.5,2.02
65 DATA 2.5,2.005
66 DATA 1.6,1.411
67 DATA 1.6,1.423
68 DATA 0.25,0.205
69 DATA 0.25,0.205

```

100 PRINT "ENTER DATE (mm/dd/yy)"
110 INPUT B$
120 PRINT "ENTER HISTORY LABEL (IDSXX...X)"
130 INPUT C$
140 DIM P(3),X(31),W(7),M(31),H(31),O(31),D(31),03(31)
150 P=0
160 P(6)=1
170 P(3)=1
180 P(29)=1
190 W=0
200 Z=0
210 D7=1
220 K=0
230 X4=0
240 PRINT "INSERT NEW HISTORY TAPE IN UNIT "IU2
250 PRINT "PRESS 'RETURN' TO CONTINUE "
260 INPUT Z$
270 FIND Q(2:0
280 MARK Q(2:1,3000
290 FIND Q(2:1
300 C=C$B$
310 PRINT Q(2:C$
320 PRINT Q(2:"002SYSTEM****"
330 PRINT Q(2:"003PLOTFILES*"
340 PRINT Q(2:"004PLOTISOC****"
350 PRINT Q(2:"005HROG****"
360 PRINT Q(2:"006HROG1.60P"
370 PRINT Q(2:"007HROG1.60P"
1000 PRINT Q(2:2:
1010 FIND Q(2:2
1020 MARK Q(2:1,1000
1030 FIND Q(2:2
1040 PRINT Q(2:"SYSTEM****"
1050 FIND Q(2:3
1060 MARK Q(2:1,5000
1070 FIND Q(2:3
1080 PRINT Q(2:"PLOTFILES*"
1090 FIND Q(2:4
1100 MARK Q(2:1,5000
1110 FIND Q(2:4
1120 PRINT Q(2:"PLOTISOC****"
2000 FIND Q(2:5
2010 MARK Q(2:3,5000
2020 P=0
2030 W1=0
2040 P(7)=1
2050 READ P(8)
2060 DIM X(P(8)),Y(P(8))
2070 FOR I=1 TO P(8)
2080 READ X(I),Y(I)
2090 NEXT I
2100 M1=0
2110 M2=0
2120 M3=0
2130 M4=0
2140 M5=0
2150 W=0
2160 W0=1
2170 FOR I=1 TO P(8)
2180 M1=M1+X(I)*W0

```

```

2190 M2=M2+Y(I)*W0
2200 M3=M3+X(I)*X(I)*W0
2210 M4=M4+Y(I)*Y(I)*W0
2220 M5=M5+Y(I)*X(I)*W0
2230 W1=W1+W0
2240 NEXT I
2250 C=U1*M3-M1^2
2260 F(10)=W1/C
2270 F(11)=M1/C
2280 F(12)=M3/C
2290 F(2)=(W1*M5-M1*M2)/(W1*M3-M1^2)
2300 F(1)=(M2-F(2)*M1)/W1
2310 F(4)=F(1)
2320 F(5)=F(2)
2330 B=0
2340 FOR I=1 TO F(8)
2350 D=U1*(Y(I)-F(1)-F(2)*X(I))^2
2360 NEXT I
2370 F(23)=1-D/(M4-M2^2/P(8))
2380 F(3)=2
2390 F(6)=D/(P(8)-2)
2400 F(9)=1
2410 F(29)=1
2420 F(27)=F(6)
2430 FIND Q02:5
2440 PRINT Q02:5*****P*
2450 PRINT Q02:5:P
2460 PRINT Q02:2:
2470 FIND Q02:6
2480 REM
2490 REM
2500 M1=1.6
2510 REM
2520 M2=0.032
2530 REM
2540 I=1.54
2550 Q0=I
2560 REM
2570 I=1.66
2580 Q1=I
2590 REM
2600 I=0
2610 Q2=I
2620 REM
2630 I=0.073
2640 Q3=I
2650 I7=31
2660 K=0

```

PRINT *ENTER OL HISTORY FOR 1.6
PRINT *ENTER MEAN(OR CENTRAL STANDARD) FOR 1.6

PRINT *ENTER S.D.(OR STANDARD) FOR 1.6

PRINT *ENTER LOWER LIMIT FOR ACCURACY*

PRINT *ENTER UPPER LIMIT FOR ACCURACY*

PRINT *ENTER LOWER LIMIT FOR PRECISION*

PRINT *ENTER UPPER LIMIT FOR PRECISION*

```

2670 X0=0
2680 W=0
2690 Z=0
2700 M2=M1
2710 M0=M2
2720 PRINT Q02:"HQGB01.604"
2730 PRINT Q02:K,D7,X0,X0,M9,01,00,X0,M8,03,02,W,W,K,K,K,K
2740 FIND Q02:7

2750 REM PRINT "ENTER OP HISTORY FOR 1.60"
2760 REM PRINT "ENTER MEAN (OR STANDARD) FOR 1.60"

2770 M1=1.6
2780 REM PRINT "ENTER S.D.(OR STANDARD) FOR 1.60"

2790 M2=0.053
2800 REM PRINT "ENTER LOWER LIMIT FOR ACCURACY"

2810 I=1.5
2820 O0=I
2830 REM PRINT "ENTER UPPER LIMIT FOR ACCURACY"

2840 I=1.7
2850 O1=I
2860 REM PRINT "ENTER LOWER LIMIT FOR PRECISION"

2870 I=0
2880 O2=I
2890 REM PRINT "ENTER UPPER LIMIT FOR PRECISION"

2900 I=0.12
2910 O3=I
2920 M2=M1
2930 M8=M2
2940 PRINT Q02:"HQGB01.604"
2950 PRINT Q02:K,D7,X0,X0,M9,01,00,X0,M8,03,02,W,W,K,K,K,K
2960 PRINT Q02:2
2970 CLOSE
2980 FIND 1
2990 OLD

3000 REM END OF PROGRAM

```


FILE # 12

1 GO TO 100
4 PRINT 011:01A
5 PRINT 041:01
100 PRINT "ENTER FILE NUMBER"
110 INPUT F
115 PRINT 041:01:FILE NUMBER:01F
120 PRINT 011:01
130 INPUT 011:01A
140 PRINT 01
150 PRINT 041:01A
160 GO TO 130